When "go" means "come":
Questioning the basicness of basic motion verbs[1]

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Abstract

The purpose of this paper is to question some of the basic assumptions concerning motion verbs. In particular, it examines the assumption that "come" and "go" are lexical universals which manifest a universal deictic opposition. Against the background of five working hypotheses about the nature of "come" and "go", this study presents a comparative investigation of two unrelated languages—Mparntwe Arrernte (Pama-Nyungan, Australian) and Longgu (Oceanic, Austronesian). Although the pragmatic and deictic "suppositional" complexity of "come" and "go" expressions has long been recognized, we argue that in any given language the analysis of these expressions is much more semantically and systemically complex than has been assumed in the literature. Languages vary at the lexical semantic level as to what is entailed by these expressions, as well as differing as to what constitutes the prototype and categorial structure for such expressions. The data also strongly suggest that, if there is a lexical universal "go", then this cannot be an inherently deictic expression. However, due to systemic opposition with "come", non-deictic "go" expressions often take on a deictic interpretation through pragmatic attribution. Thus, this crosslinguistic investigation of "come" and "go" highlights the need to consider semantics and pragmatics as modularly separate.

1. Introduction

It is commonly assumed that all languages have a class of motion verbs and that this class will minimally include two forms which correspond to English "come" and "go". It is also usual to presume that these two verb forms manifest a universal deictic opposition which is frequently characterized as "motion-towards-speaker" for the "come" form and "motion-away-from-speaker" (or "motion-not-towards-speaker") for the "go" form. In short, "come" and "go" tend to be treated as lexical

universals, belonging to a notionally coherent class of motion verbs, and both encoding deictic information. The purpose of this paper is to question these basic assumptions through a detailed analysis and cross-language comparison of "come" and "go" expressions in two genetically unrelated and geographically remote languages, Mparntwe Arrernte (Pama-Nyungan, Australian) and Longgu (Oceanic, Austronesian).

Tensions in the literature

In the sizable literature on basic motion verbs in general, and "come" and "go" in particular, there is a tension between these working assumptions and real language facts which has not gone unnoticed, but remains underexplored. While it may be true at a notional level that all languages possess a class of motion verbs (c.f. Talmy 1975, 1985, 1991), one wonders how true it is at a formal, structural level. Although choosing to work with the assumption that English possesses a formally identifiable semantic field of motion verbs, "at least as a working hypothesis", Miller and Johnson-Laird (1976: 526–531) acknowledge that their criteria generate gray areas and borderline cases. More recently, Levin and Rappaport Hovav (1992) have convincingly argued, on the basis of morphosyntactic considerations, that it is a mistake to think of motion verbs as constituting a natural class in English. For Yucatec Maya, Lucy (1994) comes to a similar conclusion. Still, in both Lucy's analysis of Yucatec and Levin and Rapaport Hovav's analysis of English, one finds a formally identifiable subclass of mono-morphemic verb roots which contains a "come" form and a "go" form and whose other members would also be considered notional motion verbs.[2] Those reluctant to give up on the idea that "verbs of motion" are a universal typological class could seize on these subclasses in English and Yucatec as proof that all languages minimally possess a class of "basic" motion verbs, identifiable as the class which contains both "come" and "go".

As an argument for the special status of "come" and "go" as fundamental motion verbs, it has been claimed that "some of the most basic human activities" include "movements such as 'go', 'come' ..." (Heine, et al. 1991: 35), and that "[t]he most common and earliest acquired verbs of motion are 'come' and 'go'" (Miller and Johnson-Laird 1976: 531).[3] Such statements are meant to testify both to the ontogenetic primacy and to the physical and perceptual basicness of "come" and "go". Nagging tensions, however, remain. Although basic, "come" and "go" are considered "too complex to serve as generic verbs" in Miller and Johnson-Laird's analysis (1976: 532) and, indeed, one of the puzzles in the child-language literature is the fact that, while "come" and "go" are

learned early, their meanings are resolved quite late (Clark and Garnicia 1974; Macrae 1976; Tanz 1980; Freeman et al. 1981; Danziger 1993).

That both "come" and "go" are deictic verbs has gone largely unchallenged, and it is their deictic nature that is often taken as the source for any apparent complexity these verbs might manifest. Yet, although accepting "come" and "go" forms are deictic, researchers working on different languages (e.g. Danziger 1993 [Mopan Maya]; Wilkins 1989 [Mparntwe Arrernte]) are often forced to note various language specific deviations from the standard characterizations of "come" and "go". Indeed, even for English, authors often note that "go" has a more generic, non-deictic usage (Miller and Johnson-Laird 1976; Langacker 1990: 155), and this raises the question of what the basic meaning of this verb is.

So, if we are to mount a forceful challenge to the reigning assumptions, then we must undertake a careful crosslinguistic comparison which will: (i) identify where and how deictic information is encoded and calculated for so-called "come" and "go" expressions; (ii) determine whether the relevant forms in the comparison do, indeed, have the same meaning and category structure; (iii) assess whether both the "come" form and the "go" form belong to the same formal subclass of verbs; and (iv) determine whether this class has as one of its defining conceptual features the notion of "motion".

The Fillmorean legacy

Fillmore's now classic works (1965, 1966, 1969, 1970, 1971, 1973, 1975a) are often taken as showing just how complex "come" and "go" really are. However, a point that is often neglected in discussions of this work is that Fillmore's stated concern was to outline the appropriateness conditions for English sentences containing the motion verbs "come" and "go". He was using such sentences to explore the nature of deixis, and to determine the relevant "supposition rules" that were involved in calculating the final interpretation of contextualised sentences (i.e., utterances). Anyone holding a Gricean view of pragmatics can look at this work as one of the earliest treatments of pragmatic issues in the American linguistic tradition. Fillmore himself would probably not wish to distinguish pragmatic issues from semantic issues, and his view has always been towards the development of what he simply calls semantic theory. We believe that many of the tensions current in the literature on deictic motion verbs are due to the inheritance from Fillmore of a failure to separate semantic and pragmatic concerns, and a failure to distinguish lexical semantic description from the description of utterance interpretation.

As Levinson (in preparation) points out, the danger of not distinguishing semantics from pragmatics is a loss of predictive power and descriptive adequacy since "entailments will end up defeasible, or implicatures will end up non-defeasible, or both".[4] The important issue here is the need to distinguish the treatment and understanding of the lexemes "come" and "go" from the treatment and understanding of utterances containing those lexemes, although the two must be related.

Sinha's (1972) work on Hindi, Annamalai's (1975) work on Tamil, and Gathercole's (1977) crosslinguistic comparison of Spanish, Japanese, English and Turkish have shown, following Fillmore, that the use of "come" and "go" forms varies crosslinguistically according to where and/or to whom the deictic center can be shifted, how far the deictic center can grow to include other places/peoples, and what metaphorical extensions are possible. In other words, these authors have demonstrated that languages differ in what we would call the pragmatic plane. However, on what we would call the lexical semantic plane, the authors all seem to agree that "come" and "go" verbs are inherently deictic verbs and that their lexical semantics is roughly "motion-towards-speaker" and "motion-not-towards-speaker" respectively.[5] In fact, although we would agree with Annamalai's (1975: 212) statement that "[t]he verb meaning 'come' or 'go' in a sentence gives more information to the hearer than their lexical meaning", authors addressing "come" and "go" crosslinguistically have tended to pass over the issue of the lexical meanings of the verbs, assuming this to be essentially universal, and have moved straight to the question of the nature of the extra information and how it is calculated. Thus, an attempt to discover whether, and how, "come" and "go" expressions differ crosslinguistically at the lexical semantic level is not trivial.

Theoretical assumptions

In common with most cognitive linguists, we are primarily interested in what Fillmore (1985, 1986) has called U-semantics (the semantics of understanding) rather than T-Semantics (the semantics of truth). Thus, we are interested in utterance construction and interpretation, and understand semantic representations to be mental constructs that reflect, on the one hand, our neuro-psychologically transformed experience of reality and, on the other hand, socio-culturally-determined belief systems and systems of reasoning. However, we diverge from some cognitive linguists in two significant ways.

Firstly, we do not subscribe to the view that linguistic meaning and conceptual structure (broadly construed) are one and the same thing.

Instead, we pursue the hypothesis that there is a separate "mental" domain of semantics which can be considered a subpart of conceptual structure, but which is socio-culturally determined and involves not only personal knowledge but projections of shared knowledge. Other areas of conceptual structure may be considered "a-linguistic", or perhaps even pre-linguistic. Thus, the content of a conventional sign (e.g., a morpheme, lexeme, construction, intonation pattern, or quotable-gesture) is not itself a conceptualization, since a conceptualization is an individual on-line a-linguistic mental act/process. Instead, the content is a stored socio-culturally-prescribed means for roughly encoding, encapsulating, or indexing parts of personal conceptualizations so that others get some sense of what the speaker originally conceptualized, perhaps even by decoding the content of the message into another personal a-linguistic conceptualization that has some crude isomorphism to the speaker's original. Thus, semantics is highly language/culture-specific, while the conceptual systems that underpin it are likely to be much more general.

Secondly, and even more fundamentally, we do not share the widely held cognitivist position that there is no motivated distinction between semantics and pragmatics (c.f. Lakoff 1987: 138–139; Langacker 1990; Wierzbicka 1991: 18–20).[6] This disagreement, however, is founded on quite particular understandings of the notions pragmatics and semantics. Very roughly, pragmatics is here taken to refer to meaning-affecting processes which take informational input (basic schematic semantic structures), match this information to context, and derive informational output (the final semantic interpretation).

Pragmatics is not concerned with information structures *per se*, it is concerned with the various possible operations on meaning structures that involve reference to context, where context is construed broadly to include at least issues of local physical and temporal context, social relations between speaker and hearer, immediate language co-text, broader discourse context, history of discourses of both speaker and hearer, shared general cultural background, etc. Semantics, by contrast, is not concerned with the explication of processes of contextual construal, but with the explication of coded information (representations). On this view, both the input to pragmatics and the output of pragmatics is semantics, and the speaker and hearer attend to all three levels (i.e., input-semantics, pragmatics, and output-semantics) with respect to any utterance token.

We propose, therefore, to distinguish between two levels of "semantics" which both the speaker and the hearer are concerned with and must mentally represent: Semantics 1 is concerned with the stored communicable information associated with conventional signs, while Semantics 2 is

concerned with the information derived online as the final interpretation of utterances (and their parts) in particular contexts.[7] There is an ongoing dispute as to whether the meanings of linguistic signs are essentially abstracted, fixed, monosemous and describable in explicit terms, or whether they are fuzzy, highly polysemous, and not describable independent of context, but this dispute seems to disappear if we acknowledge that there are two semantics, one in which meanings tend to have the former characterization (Semantics 1 or stored meanings) and another in which meanings tend to have the latter characterization (Semantics 2 or contextualized meanings).

It should be emphasized that we allow pragmatic rules to be culture-specific and language-specific. Further, we do not deny that conventional signs may semantically encode stored information pertaining to the typical contexts in which they are appropriate (e.g., deictic features), but this also entails the existence of pragmatic rules which match that information to a given context to determine reference and to see whether the use is typical or not, and if not, such rules determine what further interpretation is to be given (cf. Wilkins 1992: 154–155). Finally, as will become apparent later, it is important to recognize how systems of paradigmatically and semantically related elements interact. While semanticists may have given up the structuralist notion that paradigmatic elements in a semantic field mutually define one another (through systemic interaction), there has been an unfortunate trend to deny the relevance of systemic relations in linguistic understanding altogether. Under our current view, while each lexical item can be semantically characterized (in Semantics 1 terms) independently of other lexical items, the use and semantic interpretation of items (in Semantics 2 terms) may be system bound, and generalized conversational implicatures may be assigned on the basis of having taken systemic relations into account (cf. McCawley 1978).

The hypotheses

Against this background, we can now state the five specific hypotheses which this preliminary comparative study was originally designed to test. We will attempt to argue for each of these hypotheses.

(1)   The verbs that depict COME and GO[8] scenes crosslinguistically vary in their base semantics to such a degree that there is no useful sense in which they may be considered universal notions, or lexical universals. Further, unless one stipulates a particular scene as diagnostic for identifying some pretheoretically core notion, there is no universal GO and COME prototype which is applicable to all languages.

(Comparison of terms is, however, enabled by determining the degree of denotational overlap.)

(2) There are languages in which the GO verb is not inherently deictic.

(3) All languages have a way of indicating the deictic sense of motion towards speaker, although they will vary in how it is morphologically encoded, and in whether this linguistic element semantically entails arrival at place of speaker or simply arrival at a place on the path towards speaker, or no entailment of arrival (telicity) at all, and so on.

(4) If hypothesis (2) is true, then we may hypothesise that in languages where GO is *not* inherently deictic, a sense of deixis may seemingly be attributed to it through systemic opposition with uses of an element, such as a COME-form, which indicates (as part of its meaning) "motion to(wards) speaker". In other words, although the GO-verb may be used for a wide variety of scenes which are not deictically anchored with respect to speaker, it may strongly imply motion away from speaker, because it is in opposition to an element that entails motion towards speaker.

(5) COME and GO verbs, to the extent that they can be identified, do not always, or even typically, occur as a basic linguistically defined two-element subsystem of a language. Instead, they tend to occur within slightly larger systems of basic motion verbs (often including such notions as "return back", "arrive at", "leave from", "pass by" and so on), which, once again, help to delimit the typical range of use of these verbs through systemic oppositions.

Given what has been said previously, a further extension of hypothesis (5), is that COME and GO verbs, to the extent that they are identifiable, will not always be formally subclassed with other notional motion verbs. This then challenges the universality of even a small subclass of formally and notionally defined "basic" motion verbs which COME and GO forms might have been taken as a diagnostic for.[9]

In section 2, we present an overview of the languages to be compared and a description of the methods of data collection. In section 3, a detailed description of COME and GO expressions is presented first for Mparntwe Arrernte and then for Longgu, and a summary of similarities and differences is given. Conclusions are presented in section 4.

2. Preliminaries to the study

2.1. *Overview of the languages to be compared*

Mparntwe Arrernte, previously known as Central Aranda or Alice Springs Aranda, is the traditional language spoken in and around Alice

Springs in Central Australia. It is a member of the Arandic subfamily of Pama-Nyungan Australian languages. Morphologically, it is an agglutinative language which employs only suffixes, no prefixes. It has an extensive system of case marking involving fourteen cases marked on the final element of the noun phrase. Unlike many Pama-Nyungan languages, Mparntwe Arrernte has a complex verb structure with seven distinct positions in the verb stem: (i) the root; (ii) a slot for derivational suffixes; and (iii) five positions for different types of inflectional suffix. The verb may carry a non-obligatory inflection indicating the number, but not the person, of the subject (S or A). Unlike many Australian languages, Mparntwe Arrernte does not have bound pronominals, nor does it have distinct verb conjugations. An interesting feature of the verb morphology is a distinct slot for an elaborate category of inflections which Koch (1984) has named the "category of associated motion" (Wilkins 1991). Phrase order in the clause is pragmatically governed. A full grammar of Mparntwe Arrernte is found in Wilkins (1989).

Longgu is an Oceanic (Austronesian) language spoken on Guadalcanal, Solomon Islands. It is a nominative/accusative language which has strong head-marking characteristics. For the purposes of this paper, the verb phrase is the most significant part of the language. Core arguments are cross-referenced on the verb phrase, and verbs undergo valency changes by means of morphological processes (e.g., transitivizing suffixes and causative prefixes). The verb phrase consists of: (i) a verb which functions as the head of the phrase; (ii) a pronoun which crossreferences the person and number of the subject argument; and (iii) a series of optional aspect and mood markers and particles, including the directional particles *mai* 'hither' and *hou* 'thither' discussed in more detail in section 3.2. Verbs in Longgu may belong to one of four subclasses, where subclasses are determined on the basis of (i) primary valency and (ii) the types of valence changing morphology they allow. More details can be found in the reference grammar of Longgu (Hill 1992).

2.2. *Methodology*

The formal analysis of verb systems presented below is based on each researcher's prior work on the grammar of the languages under investigation. However, the detailed comparison of the use and semantics of GO and COME expressions in Mparntwe Arrernte and Longgu is centered around the results of the application of an elicitation tool designed by Wilkins (1993) for use by the Cognitive Anthropology Research Group of the Max Planck Institute for Psycholinguistics, Nijmegen. Both authors employed this tool during fieldwork, and have determined that the results

are consistent with prior work on the languages. The elicitation tool was devised to help a field researcher begin to identify the range of use of basic motion verbs in the language they are studying, and, in particular, to help identify the parameters that semantically define the basic COME and GO expressions for a language.

The central part of this elicitation tool is a set of 20 diagrammed motion scenes. These are not stimuli to be shown to language consultants. Instead, the scenes help researchers to organize their own elicitation tasks and help keep track of relevant parameters and oppositions which need to be tested. Such scenes are diagrammed, modeled, exemplified and/or enacted as the researcher sees most fit for the language, culture and consultant involved. The diagrammed scenes contain all the elements understood to constitute a motion scene (c.f. Talmy 1975, 1985): a Figure in Motion along a Path oriented with respect to one or more Grounds. The relevant components of each diagrammed scene are:

a) An oriented motion path depicted by a line with an arrow head.
b) Places in a scene depicted by labeled dots: "•".
c) A deictic center, which is represented by a labeled "O" in the scenes and which, in this research, is construed as the place where both speaker and hearer are located, and where the speaker is reporting the whole motion event to the addressee.
d) A description of the generalized motion path a figure X has undertaken/completed.

The crucial relations between elements in the scenes are:

a) Anchoring of a path—does the path start *and/or* finish at a particular place point? (i.e., Is it bounded at beginning or end or both, or is it totally unbounded [bounding is shown by an arrow "touching" a place dot with its tip or its base]?
b) Orientation of path—How is the path oriented with respect to particular points in the scene? Is it pointed towards or away from Deictic Centre? Does it go past certain place points? Does it go through any place points?
c) Shape of path—Is the path straight? Is it a return path? (of which circular paths are a specific subtype)? Does it go all over the place?

As an example of one of these diagrams, scene 6 from the elicitation tool is reproduced below in Figure 1.

In this scene, the figure X moves from place A, the source of motion, to place B, the endpoint destination of X (i.e., the event is telic). The motion path is anchored at place A and at place B. It is a straight path oriented towards B, but also oriented towards the Deictic Center. This

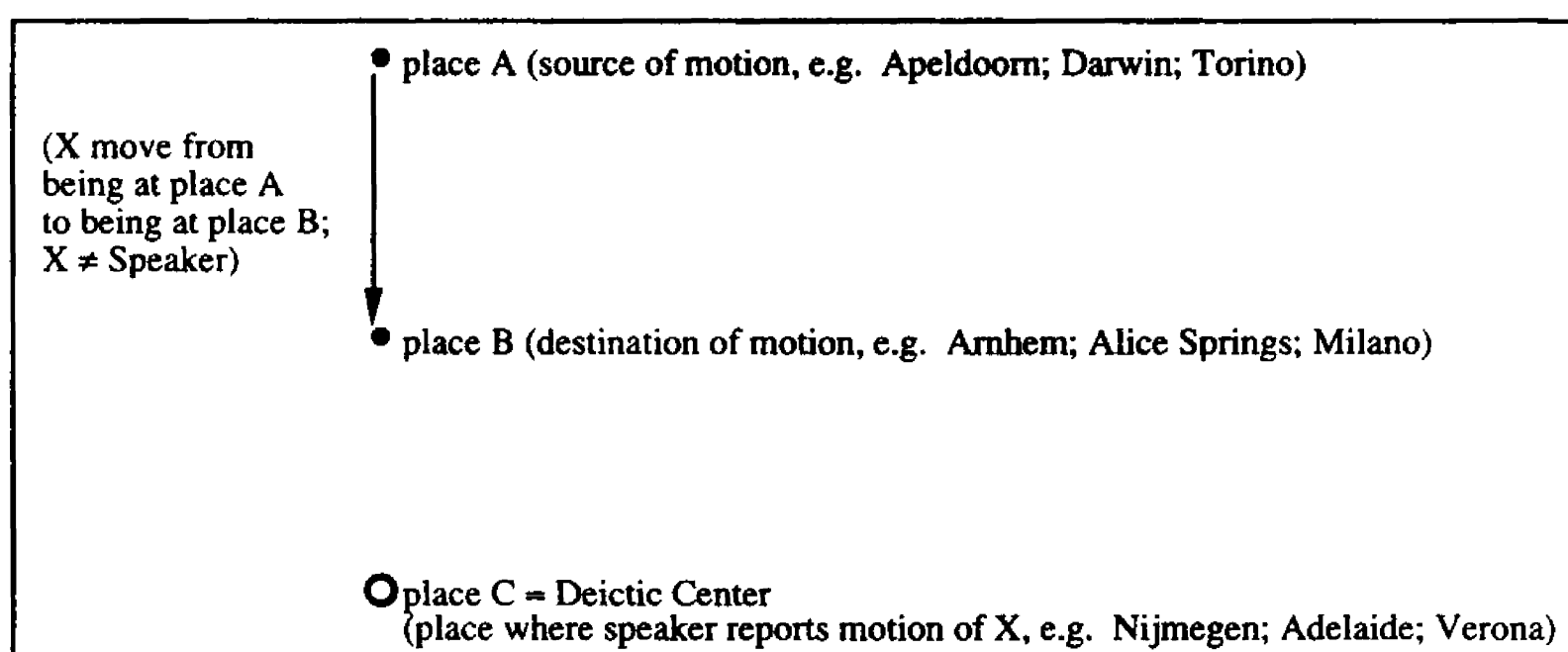|	
(X move from being at place A to being at place B; X ≠ Speaker)	• place A (source of motion, e.g. Apeldoom; Darwin; Torino) ↓ • place B (destination of motion, e.g. Arnhem; Alice Springs; Milano) O place C = Deictic Center (place where speaker reports motion of X, e.g. Nijmegen; Adelaide; Verona)

Figure 1.   *Scene 6 from the elicitation tool (Wilkins 1993: 34)*

particular scene is of interest because it meets one of the common definitions given for "come" (i.e., *motion towards deictic center*) and it seems to go against typical characterizations of "go verbs" (i.e., it is neither *motion away from deictic center* nor *motion not towards deictic center*). However, at the very beginning of our joint collaboration on this work, we noticed that Mparntwe Arrernte speakers would insist on using the COME expression for this scene (i.e., *petye-*), while for Longgu speakers the COME expression was ruled out completely, and either a GO expression (i.e., *la*) had to be used, or, preferentially, the forms for "leave" and "arrive". This was our first clear instance in which GO in one language corresponded to COME in another, hence the title of this paper.[10] Such a basic distinction in lexical application between two languages seemed to indicate a crucial distinction, not in pragmatics, but in the lexical semantic content of the relevant terms in the comparison. This account should give some of the flavor of how the scenes are used and compared crosslinguistically.

In order to get the most comparable data, and to minimize pragmatic variables in favor of a focus on semantic variables, researchers using the elicitation tool are asked to avoid situations of projected deixis, or a growing deictic center, by (i) keeping the hypothetical speaker of the motion report in the same place as the hypothetical addressee of the report (this means that neither speaker nor hearer will be the moving entity in the scenes); (ii) keeping the places in a scene at roughly the same scale, and within the same general region; (iii) making the scale of the scenes basically the scale of humans moving through space (not small scale manipulable space or very large scale global or planetary space); and (iv) making the report of the motion scene as near to present as possible. Other considerations were to keep the motion scenes as much

as possible in the horizontal plane and to attempt to elicit all possible, and natural, descriptions of a given scene. The consultants' preferred descriptions are noted, and if the expressions that have typically been associated with COME and GO in the language do not turn up in the description, then the researcher checks whether such expressions could be used in a natural description of the scene. Each consultant's responses allow one to create individualized groupings of scenes on the basis of whether or not different scenes elicited the same motion expression. After getting a sense of these groupings, the researcher then attempts to elicit from the consultants, individually, the particular depicted scenes which they consider to be prototypical for each of the expressions which form the basis for grouping. This was done by presenting consultants with one of the motion expressions they had used, and asking which of the scenes the expression was most appropriate for, and whether there were other scenes which they had not encountered which would be even more appropriate. Remember, the consultants are not selecting from amongst the given diagrams, but from amongst the scenes the researchers built on the basis of the diagrams.[11]

The full elicitation tool takes between two and eight hours to administer, and the comparison in this paper is based on the responses of four adult consultants from each language group. In our discussion, we consider only thirteen of the twenty scenes from the original tool: those which have a straight path shape, and which do not involve a motion path that passes through a place point. All return paths, circular paths, meandering paths and "through" paths are excluded from consideration. In the rest of the paper, we refer to the number of the scenes as they are coded in the original elicitation tool (Wilkins 1993). The descriptive statements about the figure's path have been removed from all diagrams on the assumption that it can be understood from the pictorial representation alone. Note that scenes 1 and/or 2 depict what have, in the literature, been considered the protypical use(s) of GO expressions, while scenes 4 and/or 5 depict the prototypical uses of COME expressions (see for example, Lichtenberk 1991). These scenes are given in Figure 2.

3. On COMING and GOING in two non-Indo-European languages

3.1. COME and GO in Mparntwe Arrernte

3.1.1. Formal identification of the system of basic motion verb roots
In Mparntwe Arrernte, unlike many languages (including English), one can easily identify a cluster of formal properties which delimit the set of basic motion verb roots. These four roots are given in Table 1.

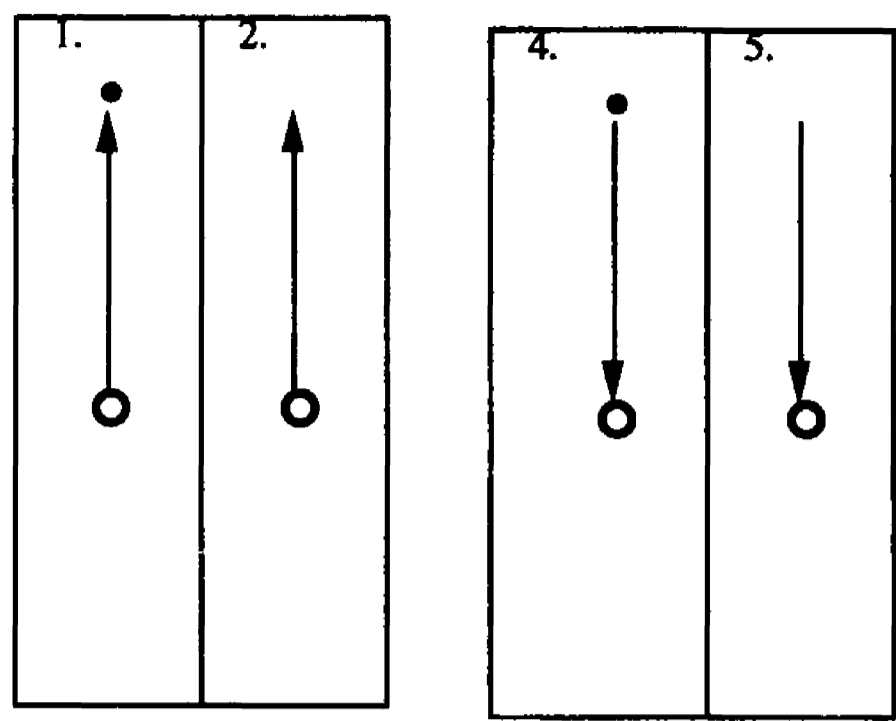There are three formal criteria which group these motion roots together

Figure 2. *The supposed "prototype"* GO *and* COME *scenes*

Table 1. *The four basic motion roots of Mparntwe Arrernte*

Basic motion roots	*lhe-* 'go'	*unte-* 'hurry; go speedily'	*knge-* 'take, carry'	*alpe-* 'go back'

and distinguish them from other verb roots. Firstly, they are the only verb roots which cannot be inflected with "associated motion" inflections. The category of "associated motion" contains 14 forms which are in paradigmatic opposition in a distinct slot in the verb and which are used to indicate that the verb-stem action happens against the background of a motion event with a specific orientation in space (see Wilkins 1991, Koch 1984). Examples of such forms are *-intye* 'do main verb action while coming this way'; *-ty.antye* 'do main verb action while moving upwards'; and *-rl.alpe* 'do main verb action and then go back'. While one can inflect verb roots like *irrpe-* 'go into'; *tnye-* 'to fall'; *twe-* 'hit' or *ne-* 'sit' for associated motion (e.g., *irrp-intye-* 'enter into while coming this way'; *tnye-rl.alpe-* 'fall and then go back'; *n-intye-* 'sit while coming this way', *twe-ty.antye-* 'hit while moving upwards'), the four basic motion roots and their derivatives resist such inflection. This incompatibility seems predictable, since much of the information encoded by the associated motion inflections is identical to information lexicalized in the basic motion verb roots. Thus, it is not odd that one cannot foreground a basic motion event against the background of a motion event, although, as some of the illustrative examples show, other notional motion verb roots like *tnye-* 'to fall' and *irrpe-* 'to go into' can be inflected with this category. Note that, although it is possible to formally isolate a subclass of basic motion verbs, not all the existing notional motion verb roots

fall into that class, and no grammatical criteria exist which formally identify the full class of notional motion verbs.

The second criterion which brings these four verb roots together is that they alone take the morpheme *-rltiwe* as the inflection for plural subject agreement (e.g., *itne lhe-rltiwe-me* 3plS go-*plS*-npp 'they are going'). Diachronically, *-rltiwe* is composed of *-rlte*, a common marking for plural subject in aspectual complexes, and *iwe-* 'to throw away'. Interestingly, this last verb shows up as part of verb stems which generally have as part of their meaning 'to cause something to move to be away from something else' (e.g., *pelhiwe-* 'to spit'; *alengkiwe-* 'to hide something somewhere'; *ankertiwe-* 'to push something'). This suggests that there is an original semantic motivation for these basic motion roots being associated with *-rltiwe* as their plural subject inflection. That is, it is unlikely to be a coincidence that verb roots which commonly (but not exclusively) describe situations of motion away from something have a unique inflection which is historically based on a verb which itself entails motion away from something. Even though these are the only verb roots which take *-rltiwe* to mark plural subject, verb stems containing the associated motion inflection *-nhe* 'do main verb action while moving past something (DO.PAST)' also indicate plural subject agreement with this form (e.g., *itne angke-nhe-rltiwe-me* 3plS speak-DO.PAST-plS-npp 'they are speaking as they go past'). What seems to be currently true of all the forms that *-rltiwe* 'plural subject' attaches to (i.e., the four basic motion roots and *-nhe* inflected verb stems) is that they can be used to describe situations in which there is motion past some point (cf. section 3.1.3). This lends some support to our later suggestion that prototypical GO scenes for Arrernte speakers seem to be ones in which the motion path passes by the deictic center at a distance away from it, not ones in which the motion path originates at deictic center and moves out away from it.

The final formal property which brings these roots together is that they are involved in processes of derivation and compounding that do not occur with other verb roots. As these processes create the other motion verbs which we will be interested in, they will be discussed later. But, before entering into that discussion, it is worth delineating the features of systemic opposition of these four roots (cf. hypothesis 5).

First, one of the roots, *alpe-* 'to go back', entails a return path (i.e., a path shape where the figure moves away from and then back towards a particular point of origin), while the other three roots encode an essentially straight path (i.e., a path shape in which the places on the path become progressively more distant from prior points on the path). Second, another of these roots, *knge-* 'to take something along, to carry something', is a transitive root, while the other three are intransitive

roots. Finally, only one of the verb roots, *unte-* 'to hurry, to go along quickly', entails a speed component. It could be argued that, in this system, the most general (unmarked) motion verb is the one that is intransitive, encodes an essentially straight path, and does not encode speed. This is the verb *lhe-*, which Arrernte-English bilinguals tend to translate as "go". However, as we shall see later, *lhe-* and "go" are semantically and pragmatically distinct, although they do have overlapping ranges of application. While it is true that neither *lhe-* nor "go" entail a particular manner, the paucity of manner of motion verbs in Arrernte means that *lhe-* has a much higher functional load as a motion verb than English "go", even though English "go" has many more extended non-motion uses than its Arrernte counterpart. So, where English speakers could, and often would, say things like "The river *flows* to the sea", "I *walked* to the creek", "The snake *slithered off* to its hole", or "The bird *flew* North", Arrernte would have to use *lhe-* (possibly accompanied by some modifier), and the default understanding would be that motion was in the manner typical of the subject. However, when, for example, the English sentence "I walked to the creek" is reframed as "I went to the creek" there is no default principle that would suggest a particular manner such as walking, probably because there are these more specific ways of coding the manner in English, and use of a "manner-free" motion verb such as "go" suggests the speaker is purposefully not intending a specific manner to be construed. Such examples show how broader systemic conditions can be relevant to the pragmatic interpretation of basic motion verbs.

3.1.2. Deictic verb stems formed on the basis of the basic motion roots

As noted in the previous section, one of the formal criteria which establishes the set of basic motion roots is that these roots enter into specific processes of derivation and compounding which are unique to them. These processes lead to the formation of six motion stems. These six verb stems and the four basic motion roots upon which they are formed together manifest a formally and semantically coherent (10-member) subsystem of the verbal lexicon which is dedicated to the expression of motion scenes. The six verb stems are given in Table 2.

The basic motion roots which indicate a "straight", rather than a "return", path take the suffix *-tye* 'towards place thought of as the place where speaker is (i.e., hither)' to derive verb stems which describe that 'the figure moves along a (topologically) straight path towards the place thought of as the place where speaker is (i.e., move towards [ego-]deictic centre)' (cf. hypothesis 3). This "hither" morpheme only occurs within this system of motion verbs and nowhere else in the language. Thus,

Table 2. *The six deictic verb stems formed from the four basic motion roots in Mparntwe Arrernte*

-*tye* 'hither' (motion towards [ego-]deictic centre)	*petye-* 'come'	*utne-tye-* 'hurry hither'	*knge-tye-* 'bring'
Compounds with *alpe-* (motion back towards [ego-]deictic centre)	*pety-alpe-* 'come back'	*unte-ty-alpe-* 'hurry back'	*knge-ty-alpe-* 'bring back'

unte-tye- 'hurry hither' is derived from *unte-* 'hurry away, hurry along' and *knge-tye-* 'bring' is formed from *knge-* 'take along, carry'. Crucially, we do not find a "thither" suffix. As Table 2 shows, the basic motion root *alpe-* 'go back' may be compounded to the end of all three hither-derived verb stems to derive verbs that indicate 'the figure moves back along a return path towards the place thought of as the place where speaker is (i.e., motion back towards [ego-]deictic center)'.

One obvious irregularity in the system is that instead of **lhe-tye-* 'come' (which never occurs) we find *petye-* 'come', which appears to contain the -*tye* "hither" morpheme and leads us to search for a motion verb of the form *pe-*. Mparntwe Arrernte, however, has no verb root *pe-*, but, on the basis of comparative-historical reconstruction (c.f. Wilkins 1989), it is clear that the proto-Arandic GO verb was, in fact, **ape-*, and this verb is preserved in the Arandic language Kaytetye where we find *ape-nke* (go-present) 'is going' next to *ape-nke-rne* (go-present-hither) 'is coming'. A subgroup of Arandic languages, including Mparntwe Arrernte, replaced original *ape-* 'go' with *lhe-*, and this seems to be related to the fact that *ape-* took on grammatical functions. In Mparntwe Arrernte, we can find modern reflexes of Proto-Arandic **ape-* 'go' in one of the continuous aspect morphemic complexes -*rle.pe* 'do verb action continuously while in motion', and as a ligature in a verb reduplication strategy which indicates that the verb root action goes on happening over and over again (e.g. *twe-* 'to hit'; *twe-pe-twe-* 'to go on hitting over and over again').[12]

Importantly, *none* of the derived motion forms discussed here can take the plural subject agreement inflection -*rltiwe* that helps identify the set of basic motion roots. However, the three hither-derived forms are all unique in being the only verbs in the language which are marked for dual subject agreement with the form -*lherre* (ie. *petye-lherre-me* 'two people coming this way'; *unte-tye-lherre-me* 'two people hurrying this way'; *knge-tye-lherre-me* 'two people bringing something this way'). Thus,

formal criteria support the synchronic recognition of *petye-* 'come' as belonging to the set of derived forms based on the basic motion roots.

This slight digression is relevant because it helps us see the difficulty of distinguishing observations about individual lexemes from observations about systems. At the lexemic level *lhe-* 'go' and *petye-* 'come' are formally distinct in that one does not derive directly from the other. This is like English. However, at the system level, with the various paradigmatic relations that have been set up, we can see that *lhe-* is suppletive in the paradigm, and that verbs that encode a "hither" notion are formed through a morphological addition to a motion root base, i.e., there are "unmarked" motion forms (functioning as base roots) and formally "marked" motion forms (understood as derived stems). Unlike English, then, the relevant GO and COME forms in Arrernte are at different levels in the linguistic system (i.e., root level vs. derived stem level; cf. hypothesis 5). It turns out that anything we say in this paper about *lhe-* 'go' can also be said about *unte-* 'hurry along' and *knge-* 'take along', and anything we say about *petye-* 'come' can also be said about *untetye-* 'hurry hither' and *kngetye-* 'bring'. Indeed, in each triad of forms, the truth of the latter two forms entails the truth of the former. That is, if the predicate *unte-* or *knge-* can be truthfully used to describe a situation, then *lhe-* 'go' must also be true with respect to the figure (subject) in the situation, and a parallel relation holds with the "hither"-derived verb stems.

3.1.3. When GO means COME in Mparntwe Arrernte

One common mistake made by English speakers trying to learn Arrernte is the use of *lhe-* 'go' (or *unte-* 'hurry along', or *knge-* 'take along') for certain situations in which Arrernte speakers require *petye-* 'come' (or *untetye-* 'hurry hither' or *kngetye-* 'bring'). This mistake arises from treating *lhe-* as a direct translation of English "go", when in fact *petye-* 'come' covers some of the scenes covered by English "go" (cf. hypothesis 1). In one of his earlier papers on English "come" and "go", Fillmore (1966: 223) noted that, in typical uses, "the place to which one GOES is a place where I am not", and "the place to which one COMES is a place where I am or you are". However, in Mparntwe Arrernte, it is *not* true that all typical cases of "one moving to a place where the speaker is not" can be described by *lhe-* 'go' (or *unte-*, or *knge-*), nor does *petye-* 'come' (or *untetye-* or *kngetye-*) entail, or even strongly imply, that "the place to which one moves is a place where the speaker and/or the addressee are". All that *petye-* 'come' requires is that the figure move along a path 'towards' the place where speaker is, and there is no implication of movement 'to' that place (cf. hypothesis 3). So, any time a figure moves from its point of origin to another place which is closer to the place

where the speaker is, then *petye-* 'come' is the felicitous choice, and *lhe-* 'go' is not.

Thus, Arrernte speakers not only keep track of motion to deictic center, but any motion towards deictic center, even if that motion is known to terminate at a point long before deictic center. For English, it seems fair to say that in a sentence like "She's going to the store before coming here", there is no sense of whether the trip to the store takes her away from deictic center or towards it, and by comparison the sentence "She's coming to the store before coming here." is a bit marked, and suggests something like meeting up with the speaker or addressee at the store before moving on. But in Arrernte, you must calculate the path, and if the figure, in moving to the store, moves closer to the speaker-based deictic centre, then *petye-* is used, and the equivalent sentence is '*Re petye-me store-werne, ikweriperre nhenhe-werne petye-tyenhenge*' (3sgS come-npp store-ALL, 3sgDAT-AFTER here-ALL come-SBSQNT) 'She's coming to(wards) the store, after which (she) then comes to(wards) here.' Importantly, this Arrernte sentence carries absolutely no suggestion that speaker or hearer are projected as being at the store. If in going to the store, the figure neither moves closer nor farther from the deictic center (e.g., the figure passes it laterally), then *lhe-me* 'is going' will replace *petye-me* 'is coming' in the first clause. However, if in going to the store first, the figure first moves further away from the deictic center than it was before, then *lhe-me* will again occur in the first clause, but in the second clause *petye-tyenhenge* 'subsequently come' will be replaced by *petyalpe-tyenhenge* 'subsequently come back' because the path from store to place of speaker will involve some degree of 'moving back', and hence involves a return path shape (although it does not entail return to point of origin). Failure to use these verbs appropriately is taken by Arrernte speakers as a typical "whitefellah" inability to keep track of known sites and their spatial relation to one another, as well as a failure to keep in mind the exact paths of motion between the sites.

In keeping with the above discussion, it should be pointed out that the Arrernte translation equivalent of a simple English sentence like "She came to the fire", *Re petye-ke ure-werne* (3sgS come-pc fire-ALL), is in fact vague as far as any claim that she moved to be at the fire, since the allative case marker *-werne* only indicates that motion was towards this point. Moreover, this Arrernte sentence is vague as to whether "the fire" is the deictic center, or whether it simply sets a potential anchor to the endpoint of a path of motion and this path segment itself is oriented towards the deictic center. That is to say, while the allative phrase (i.e., *ure-werne* 'towards the fire') sets the (hypothesized) limit of the motion path, the "deictic center" encoded in the verb's meaning only provides a

point of reference for orientation of the motion path. By contrast, it seems that with English "come" the deictic center is not only a reference point for path (segment) orientation, but is in fact the potential endpoint anchor of motion, and so tends to equate with the place mentioned in the "to-phrase". From these observations we can conclude that English "come" and Arremte *petye-* are neither semantically, nor functionally, equivalent (cf. hypotheses 1 and 3).

The above points become clearer when we analyse the results obtained from the elicitation tool described in section 2.2. To provide flesh to the schematic scenes, supporting "map" drawings of sites known to the consultants were used; some motion scenes were enacted for the consultants with Duplo toy people moving amongst toy landmarks; other motion scenes were enacted using real people moving from place to place; and part of the task always involved consultants themselves enacting scenes by moving toy people. The preliminary results are as follows.

All four consultants described the four scenes in Figure 3 using the verb *petye-* 'come' (or *untetye-* 'hurry hither' or *kngetye-* 'bring'), and in follow-up questioning they rejected the use of *lhe-* 'go' (or *unte-* 'hurry away' or *knge-* 'take along').

This is in keeping with the previous characterization of *petye-* 'come' as only entailing that the motion path be oriented towards the speaker-determined deictic center, but not that the path be anchored at one end or the other. Moreover, it shows that *lhe-* 'go' will not be used where *petye-* 'come' has been selected. Consultants did not all agree on which scene best represents what *petye-* 'come' means. Two consultants chose scene 5, one chose scene 6, and one chose scene 3. So there is no strong suggestion of a single prototype, or best exemplar, of a COME scene.

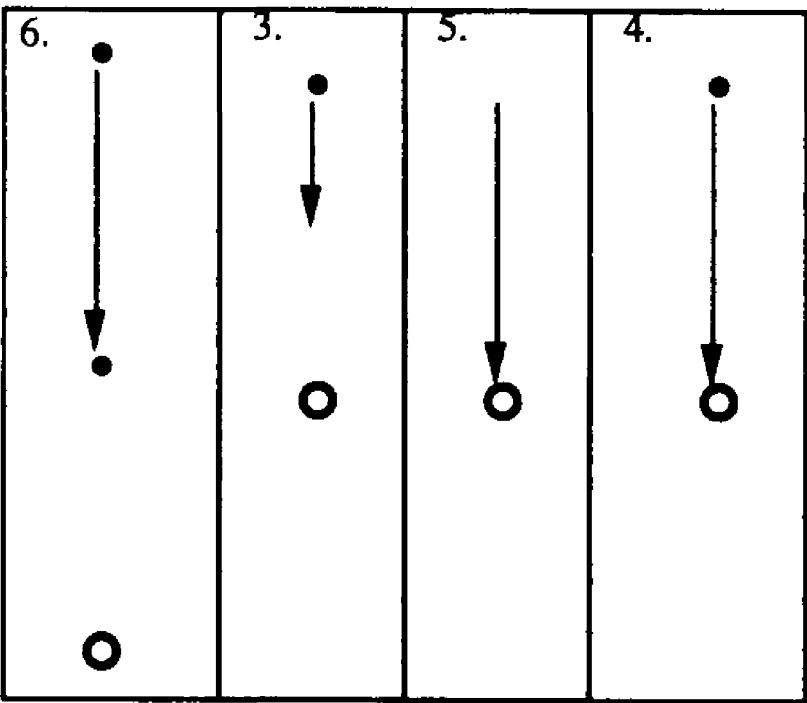All the consultants described the following eight scenes in Figure 4

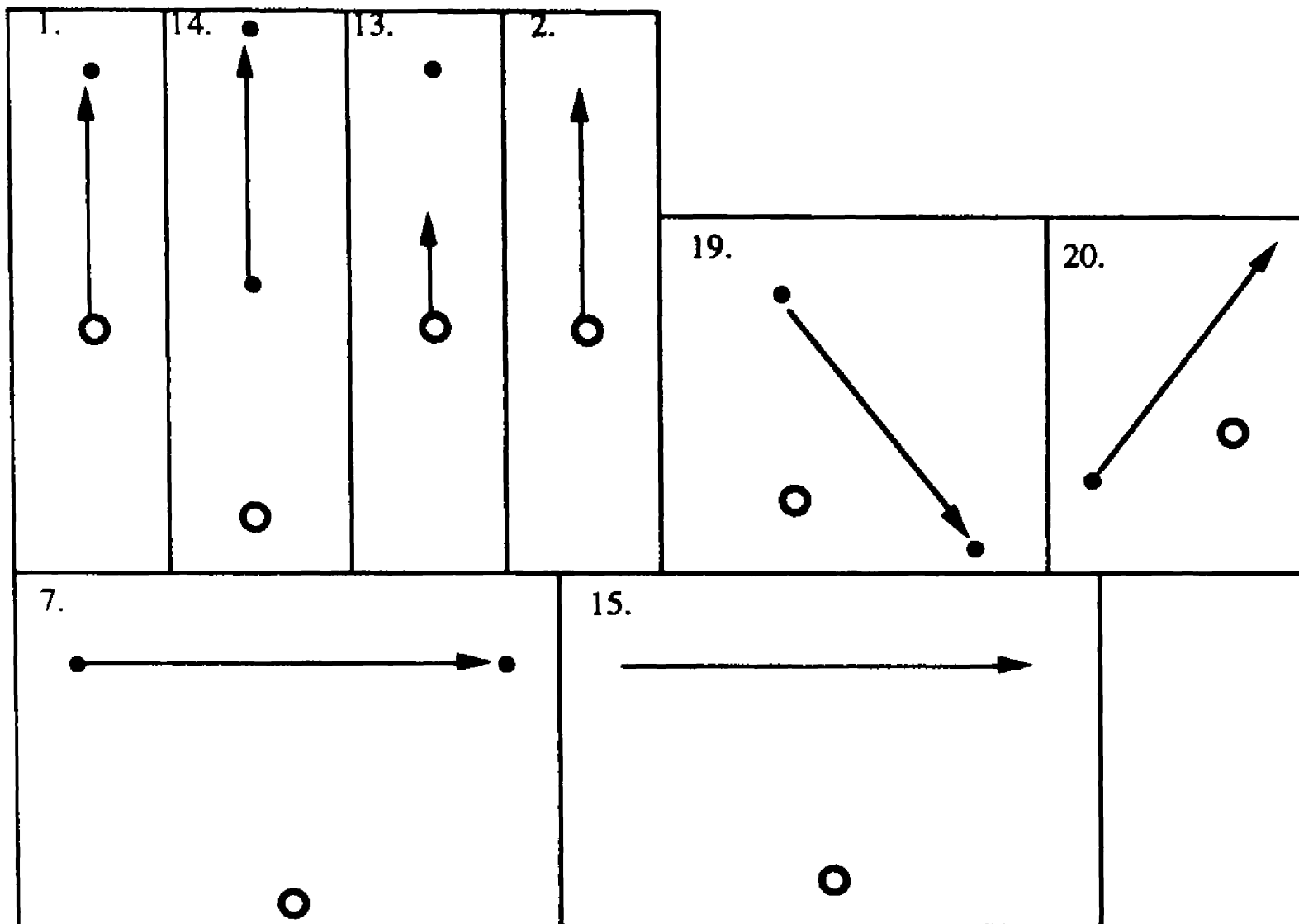Figure 3.   *Unambiguous COME scenes in Mparntwe Arrernte*

Figure 4. *Unambiguous GO scenes in Mparntwe Arrernte*

using the verb *lhe-* 'go', and they all denied that *petye-* 'come' could be used. Four of these scenes (1, 14, 13, 2) represent motion paths oriented away from the deictic center, and four (7, 19, 15, 20) represent motion that passes by the deictic center.

Although it would be accurate to say that all the scenes described by *lhe-* 'go' share the property of 'motion-*not*-towards-deictic-center', we will argue below that this is not a feature of the lexical semantics of the root. As scene 15 shows, *lhe-* 'go' is used even when there are no known places anchoring the path (e.g., *re lhe-me ayerrere-werne-theke* 3sgS go-npp north-ALL-wards 'He is going northwards'). Moreover, two consultants chose this scene (i.e. 15) as the best exemplar of *lhe-* 'go', while one chose 7, and one chose 2. It is noteworthy that three consultants chose a scene which passes by the deictic center, and only one chose a scene which goes out from the deictic center. Furthermore, three chose scenes without an indicated endpoint (2 and 5). One consultant who settled on 15 argued that the best case of *lhe-me* 'is going' is not in fact any of these scenes, but is instead the speaker simply walking along (i.e., a kind of shifting deictic center). This observation reminds us that a very common "go" scenario is in fact the speaker's own motion, and a logical source for a motion prototype would be our own sense of self-locomotion.

Scene 18, shown in Figure 5, was less straightforward than the previous scenes.

One consultant confidently described this scene using *lhe-* 'go', and denied that *petye-* 'come' would be used. Another described the scene using *lhe-* 'go', but was unsure whether *petye-* 'come' could be used. Two other consultants suggested that either *lhe-* 'go' or *petye-* 'come' could be used. It appears that this scene would be described with *petye-* 'come' if the place of the deictic center is perceived as being significantly closer to the destination point than the origin point—that is, if the figure ends up being to the deictic center than it was before. Otherwise the scene is described with *lhe-* 'go'. Although we have tried to prevent "growth" or shift of the deictic center in presenting these scenes, the adjacency of the destination point and the deictic center in this scene may encourage this process, thereby explaining the use of *petye-*. If this is not the explanation, then it may be necessary to revise the characterization of *petye-* such that, instead of entailing that the motion path be directly oriented toward deictic center, it merely entails that the most significant aspect of a motion scene is that it brings the figure closer to deictic center than it was previously.

Leaving this last scene aside for the moment, it would be possible to render the deictic difference between those scenes that are described by *petye-* 'come' (or *untetye-* or *kngetye-*) and those scenes that are described by *lhe-* (or *unte-*, or *knge-*) as 'motion-towards-deictic-center' versus 'motion-*not*-towards-deictic-center', respectively. As already noted, there are reasons to reject this semantic characterization of the deixis of the forms. One common iconic principle in the functionalist and cognitive semantic literature is that formal complexity reflects conceptual complexity (Haiman 1985: 147–151; Croft 1990: 173; Svorou 1994: 34).[13] On this view, an anomaly arises: *lhe-* 'go', and the other basic motion roots, are the unmarked simplex forms in the system, but they are analyzed as being conceptually more complex than, and conceptually dependent on, *petye-* 'come', and the other "hither"-derived motion stems, which are
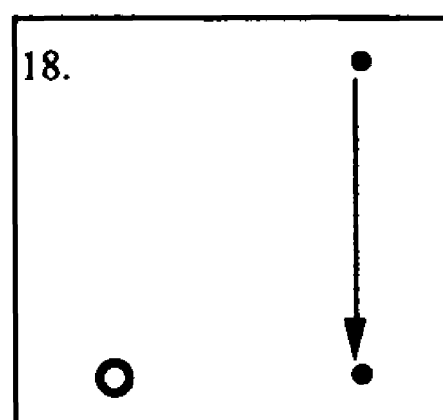

Figure 5.   *A scene which in Arrernte is "ambiguous" between a* COME *and a* GO *interpretation*

the marked, more formally complex elements in the system of oppositions. In other words, the form-meaning fit in the system seems anti-iconic, because of the added negative element in the deictic description of the basic motion roots.

Since it is crosslinguistically common for the COME verb to be derived through the addition of a deictic morpheme to the GO verb, while it is extremely rare to find GO verbs derived from COME verbs, the standard semantic analysis would force us into the unpleasant position of accepting this anti-iconicity as being quite pervasive, and so would force us to challenge one of the basic functional principles governing iconicity. But, do we need to accept that the lexical semantic characterization of *lhe-* or *unte-* or *knge-* involves a negation of motion towards the deictic center? An alternative analysis is to treat these basic motion roots as having no inherent deixis of their own (cf. hypothesis 2). The verb *lhe-* 'go' would therefore be a general motion verb much like Miller and Johnson-Laird's (1976) TRAVEL primitive. These verbs belong to a system which has deixis in it because some of the verb stems in the system overtly encode "motion towards the place thought of as the place of the speaker". Where motion is known to be towards the deictic center, it would be infelicitous to use anything but the formally more complex "hither"-derived verb stems (i.e., it would be infelicitous to use a semantically more general description, as a violation of the Gricean maxim of quantity). Thus, basic verb roots like *lhe-* 'go' would tend to be reserved for situations which cannot be described by these derived verb stems, and so, from a pragmatics-of-use point of view, the unmarked, general motion roots take on an implication of deixis because of the oppositional relations present in the system. That is, the sense of "motion-not-towards-deictic-center" may derive from a system-based pragmatic implicature rather than from lexical semantic encoding (cf. hypothesis 4). This would explain the apparent anomaly.[14]

In taking this view, it is possible to describe consultants' variable reactions to the motion situation described in scene 18 in the following way. First, all speakers accept that *lhe-* 'go' could describe the scene. Instead of interpreting this as showing that the consultants view the scene as entailing "motion-not-towards-deictic-center", this new view suggests that they are simply *not* making the claim that motion is towards the deictic center. In other words, under the Gricean maxim of quality, they are using a non-deictic general motion root to say what they know to be true, which is that the scene involves TRAVEL. They are not saying what they do not know to be true, which in this case amounts to *not* predicating "motion-towards-deictic-center" since the speaker is not sure exactly how to interpret the orientation of the path. Speakers who confidently say

that *petye-* 'come' can also be used for this scene suggest that they use this verb when construing the path as being significantly oriented towards deictic center, and so it is used when the speaker is committing to a deictic interpretation.

If this alternative approach to the analysis of COME and GO verbs in Arrernte is valid, we would expect to find that the hypothesised implicature of deixis for a verb like *lhe-* 'go' is defeasible and non-detachable. We suggest three conditions which speak to the generality of the basic motion roots, and the defeasibility of the proposed "not-towards-deictic-center" implicature. First, in seeing someone moving towards the deictic center, it would be natural for a speaker to ask his/her addressee *"nthenhe-werne re lhe-me?"* (where-ALL 3sg go-npp) 'Where is she going', using *lhe-* 'go'. The use of *petye-* 'come' would be possible in the question, but this presumes the figure will stop at some point on a path that is oriented towards speaker (the deictic center itself being one of the possible points). The general question with *lhe-* apparently makes no presumption, and allows for the possibility that the figure's path may deviate from its current trajectory and move off in another direction which is not oriented towards the deictic center. Of course, the question allows among its possibilities that the path will continue to be directed to deictic center and will finish there. In fact, a common greeting to a person approaching the speaker is *"Werte! Nthenhe-werne unte lhe-me?"* (what's up! where-ALL 2sgS go-npp) 'G'day! Where are you going?'

The second example of a condition of defeasibility, like the first, involves lack of knowledge, or uncertainty, on the part of the speaker. When a speaker knows only that someone is traveling somewhere, and the deictic center is among the possible set of destinations, s/he could still say (even as a felicitous answer to the question described previously) *"Ayenge kutne pmere nthenhe-werne re lhe-tyeke, re apeke petye-me nhenhe-werne"* (1sgS be.ignorant.of place where-ALL 3sgS go-PURP, 3sgS maybe come-npp here-ALL) 'I don't know which place she's going to, perhaps she's coming here'.

Finally, a list of places that the figure travels to can be predicated with *lhe-* 'go' followed by conjunction reduction, even if one of the places is the deictic center. Thus, the following is a perfectly acceptable sentence: *Re lhe-ke alhere-werne-kemparre, ikwer-iperre pwerte-werne, ikweriperre nhenhe-werne* (3sgS go-pc creekbed-ALL-FIRST, 3sgDAT-AFTER hill-ALL, 3sgDAT-AFTER here-ALL) 'She went to the creek first, then to the hill, and then to here' (i.e., understood as 'then she came to here', even though the verb that has been 'ellipsed' from the final conjunct is *lhe-ke* 'went'). This sentence presumes that the first place, at least, is not on a motion path that is oriented to deictic center. One cannot do similar

listing and conjunction reduction with *petye-* 'come' unless all the places listed are on a motion path oriented towards the deictic center.

Space does not permit a demonstration of non-detachability, but, in line with parallelisms we have seen previously, *unte-* 'hurry along' and *knge-* 'take along' also behave like *lhe-* 'go' with respect to these tests for the defeasibility of the "motion-not-towards-speaker" implicature. We take these facts as strongly supporting, if not completely proving, that the basic motion roots are non-deictic in their inherent lexical semantics, and that under typical conditions of use pragmatic rules invoke a deictic implicature. This inheritance of deixis is crucially dependent on a pragmatic process which takes into account that there is a two-level system of oppositions between lexically deictic derived verb stems and lexically non-deictic motion verb roots. In this way, we are able to explain the apparent anomaly in the relation between the degree of complexity of the formal structures and the degree of complexity of the conceptual structures: in terms of lexical semantics (Semantics 1), the form-function relation is iconic, but at the level of system-derived pragmatic interpretation (Semantics 2), when particular contextual conditions obtain, a more complex information structure implying deixis is computed and is associated with the semantically non-deictic lexemes.

3.2. COME *and* GO *in Longgu*

When comparing COME and GO crosslinguistically, the first obvious step is to identify the expressions that correspond to COME and GO in any given language. This is not easy for Longgu. And this, as we shall see, is itself revealing and further highlights the importance of distinguishing between formal, semantic and pragmatic factors.

In Longgu, the expression that unambiguously corresponds to COME is the phrasally complex *la mai* 'come', consisting of the verb *la* 'go, travel, move along a path' and a directional particle *mai* 'hither, direction towards speaker or deictic center'. This supports the hypothesis that all languages have a way of indicating the deictic sense of motion towards speaker, although they will vary as to how it is morphologically encoded (i.e., hypothesis 3). It does not, however, support the view so often implied in the literature that COME is a *lexical* universal. The expression which occurs in immediate opposition to *la mai* 'come' is *la hou* 'go (from here)'. This is also a verb phrase consisting of the generic verb *la* 'go, travel' and the directional particle *hou* 'thither, direction away from speaker or deictic center'. Thus, these COME and GO expressions are both phrasally complex, being headed by the same generic motion verb root,

and finding their semantic opposition in the contrast between the two free form deictic particles.

Note that the verb *la*, which forms the basis of both phrases, has been glossed 'go, travel'. *La*, more particularly *lae*,[15] is used for many scenes (e.g., 15) that would be described by *go* in English and its rough equivalent in many other languages (such as Arrernte *lhe-*). The phrase *la hou* has a much more specific meaning and narrower range of use than does *la/lae* 'go, travel' and can best be glossed 'go away from deictic center'. Which GO expression should we be interested in—the phrase that is most obviously in deictic opposition to the COME expression, or the motion root which forms the head of both deictic motion expressions and covers some of the scenes that are commonly covered by the GO expressions in other languages?

3.2.1. Systems, subsystems, levels and oppositions

According to hypothesis 5, the expressions for COME and GO do not typically occur as a two-element subsystem in a language, but instead must be considered in relation to larger systems of interrelated linguistic items. In Longgu, to identify systems, we must first distinguish between the two types of element which together constitute the verb phrases that correspond to COME and GO. On the one hand, the directional particles *mai* 'hither' and *hou* 'thither' do form a structural and notional two-element subsystem within the language (i.e., there are no other directional particles). On the other hand, we can think of *la* 'go, travel' as a generic non-deictic motion verb which essentially corresponds to the TRAVEL primitive proposed by Miller 1972 and Miller and Johnson-Laird 1976, and which belongs to a system of simple verb roots (to be detailed below). However, we cannot only compare the directional particles, nor restrict ourselves to the system of verb roots which contains *la* 'go, travel', but we must also compare the system of verb phrases in which these elements occur, as it is such verb phrases that are claimed to correspond to COME and (one form for) GO and not just the particles or verb root.

While the immediate systemic oppositions that are relevant for the verb root and for the directional particles are both at the level of lexicon, the phrases which are built up from these lexical elements are clearly at a different level of immediate systemic oppositions (i.e., the verb-phrase level of expressions formed by verb and directional particle). The verb phrases *la mai* 'come' and *la hou* 'go thither' are expressions in direct opposition at the same systemic level. But when we compare *la mai* 'come' with *la* 'go, travel' we appear to be comparing expressions at different levels, so the system of relations which needs to be considered

must be expanded to comprehend both the relevant lexical systemic subdomains and the relevant phrasal systemic subdomains.

In general, it is more likely for two expressions at the same systemic level (e.g., two verb roots or two verb phrases) to be treated and understood as full opposites, than it is for two expressions from different systemic levels (e.g., a verb root in relation to a verb phrase). This is especially true when the more complex expression can be considered a specific hyponym of the more general superordinate basic expression. In Longgu, the unmarked term is the simplex root *la* 'go, travel' while the marked term is the phrasally and semantically more complex *la mai* 'come'. Moreover, in relation to *la* 'go, travel', the verb phrase *la hou* 'go away' is just as phrasally and semantically complex as *la mai* 'come'. Both complex phrases are hyponymic instantiations of the generic simplex form *la* 'go, travel' on which they are based.

So, if we compare the Longgu verb phrases *la mai* 'come' and *la hou* 'go', this opposition looks somewhat like the perceived antonymic opposition between the English verb roots *come* and *go*, where the opposing elements are at the same systemic level and appear to express motion in opposite directions. On the other hand, if we compare the Longgu verb phrase *la mai* 'come' with the verb *la* 'go, travel' then the terms of comparison look more like that which was found in Arrernte, where basic (superordinate) verb roots describing generic motion situations had to be compared with derived verb stems describing more semantically specific COME situations (i.e., in both, the terms of comparison are between elements at different systemic levels). In systems where the two elements are not at the same level, it is less likely that the two terms will be perceived as being in direct contrast.

We have noted that the directional particles *mai* 'hither' and *hou* 'thither' form a two-element subsystem in Longgu, and that the verb phrases *la mai* 'come' and *la hou* 'go away from deictic center' are directional opposites. However, it does not follow from this that the verb phrases themselves form a two-element subsystem: in fact, a range of verbs combine with the directional particles to form directional verb phrases.

The two directional particles can combine with what we might term notional verbs of motion and with verbs of perception. A typical, but not exhaustive, list of directional verb phrases is as follows:

(1)	*la mai*	'come'	*la hou*	'go away (from here)'
	ade mai	'bring(here)'	*ade hou*	'take away (from here)'
	tavi mai	'run away (to here)'	*tavi hou*	'run away (from here)'
	sivo mai	'descend (to here)'	*sivo hou*	'(descend (from here)'
	ta'e mai	'ascend (to here)'	*ta'e hou*	'ascend (from here)'

sara mai	'arrive here'	—	
bere mai	'look(to here)'	*bere hou*	'look(from here), look up at'
rongo mai	'hear(towards here)'	—	

Such a list gives a rough idea of the immediate system of phrases which *la mai* 'come' and *la hou* 'go' belong to.

Moving to the lexical level, the above data also show that the ability to combine with directional particles is not a diagnostic which by itself yields the notional class of motion verbs. However, this does not mean that the class defined on this criterion is not semantically-based. It does not seem unreasonable to treat the motion verbs and perception verbs listed above as all being path-encoding verbs (cf. Gruber 1976, Sweetser 1990), since it is typical for the object of perception and the perceiver to be in distinct locations connected only by the fact of perception taking place through a particular medium.

Verbs in Longgu fall into one of four formal classes based on their primary valency and their ability to increase or decrease their valency. The verb *la/lae* 'go, travel' falls into class 3 (cf. Hill 1992). Class 3 verbs are primarily intransitive verbs whose valency can be increased by the addition of a transitive suffix and an object suffix. Thus the verb *la-vi-a* (go-TRS-OBJ.SUFF) means to 'go to get something'. Not all verbs which combine with the directional particles, however, are Class 3 verbs. For example, *ade(-a)* 'take (it)', which appears in the above list, is from Class 2, which means that it is primarily a transitive verb whose valency can be reduced by the omission of the object suffix. There are no formal grounds on which we can identify a class which contains all and only the notional verbs of motion. If we look at the smallest formally defined subclass which contains *la* 'go, travel', we see that it is a class which meets two criteria: (i) verbs that belong to class 3 and (ii) verbs that combine with directional particles. Note that the complete set of class 3 verbs notionally includes motion verbs, verbs of perception, process verbs and stative verbs such as *mae* 'to die, to be dead', while the set of verbs which combine with directional particles notionally include motion verbs, perception verbs and verbs describing dimension. When the two criteria are combined we still do not get a homogeneous motion class, since the resultant intersection of classes contains both motion and perception verbs. At best this can be identified as a class of intransitive path-verbs. Employing the strictest criteria (class 3, and occurrence with both directional particles), there are only five other verb roots that cooccur in the same formally defined subsystem of the lexicon as *la/lae* 'go, travel': i.e., *tavi* 'run away'; *bola* 'jump'; *lovo* 'fly'; *bere* 'look' and *bubu* 'stare'. Thus, Longgu does not have even a small formally-defined residual class of verb roots for which motion could be considered a defining characteristic,

and possession of a GO form, therefore, is not a reliable diagnostic for such a motion class.

3.2.2. The non-deictic nature of one of the Longgu GO forms

Hypothesis 2 suggests that in some languages the GO verb is not inherently deictic. As we have seen, Longgu possesses a deictic GO expression in the form of *la hou* 'go thither'. However, in this section, the non-deictic nature of *la* 'go, travel' is discussed, and we argue the correctness of identifying *la* as one of two GO expressions in Longgu by showing that it sometimes has a deictic interpretation pragmatically attributed to it by virtue of a contrast in use with *la mai* 'come' (cf. hypothesis 4).

In order to compare COME and GO crosslinguistically, we have compared situational equivalence. That is, by examining particular standardized motion scenes we can ascertain the appropriate basic range of use of these forms for each language. In this way, we can see that the same scenes are not necessarily described by what are identified as corresponding COME and GO expressions in each language. Unlike, the Arrernte consultants, the four Longgu consultants did not vary in their responses to the elicited scenes. The COME scenes were the easiest to identify for Longgu: *la mai* 'come' picks out just two scenes, 4 and 5, and its meaning is best understood as something like 'move to be at deictic center' (see Figure 6). Unlike the COME verb in Arrernte, the Longgu verb phrase *la mai* 'come' is inherently telic. This provides support for the view (cf. hypothesis 3) that languages differ semantically as to whether the deictic element which conveys the notion of motion towards deictic center entails arrival at place of speaker (the case of Longgu), or no entailment of arrival at all (the case of Arrernte).

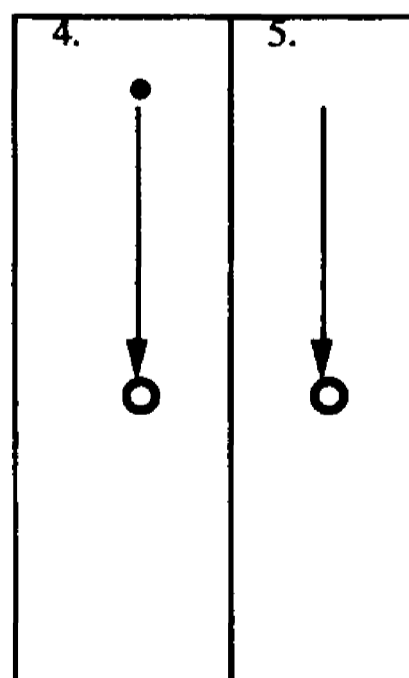After identifying the COME expression and the scenes it describes, one

Figure 6. *Unambiguous COME scenes in Longgu*

is still left with the problem of identifying what *la mai* 'come' is opposed to, such that one can determine the nature and range of the GO expression(s). The verb phrase *la hou* 'go thither' can be used to describe scenes 1, 2 and 13 and entails a motion path which starts at deictic center and moves away (see Figure 7).

When *la* is the only element of a verb phrase (i.e., when it is not in combination with a directional particle) it can be used for the six scenes shown in Figure 8. Thus, *la* describes not only those scenes showing a motion path past a deictic center which is not anchored at one or both ends (15, 20), but also one scene of motion oriented towards but not reaching the deictic center (6), and also the same three deictically anchored scenes as *la hou* 'go thither' (1, 2, 3). In the elicitation task the verb *la* was never used on its own in a verb phrase to describe any of the scenes that *la mai* 'come' was used for.

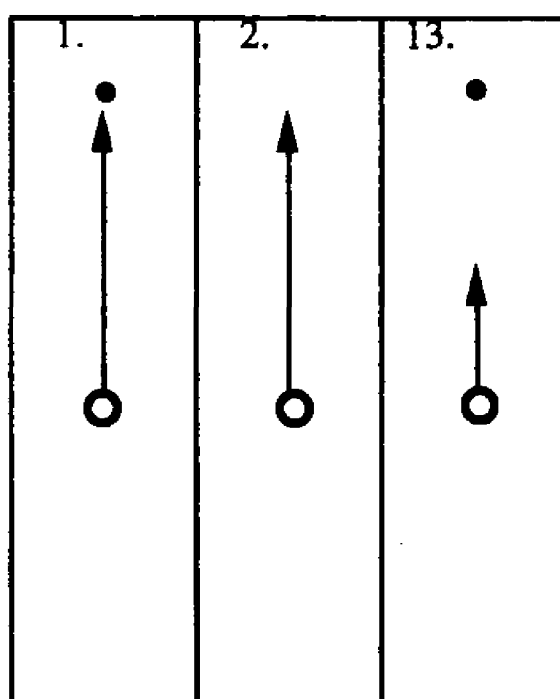When *la* occurs in a verb phrase on its own, it may cooccur with a

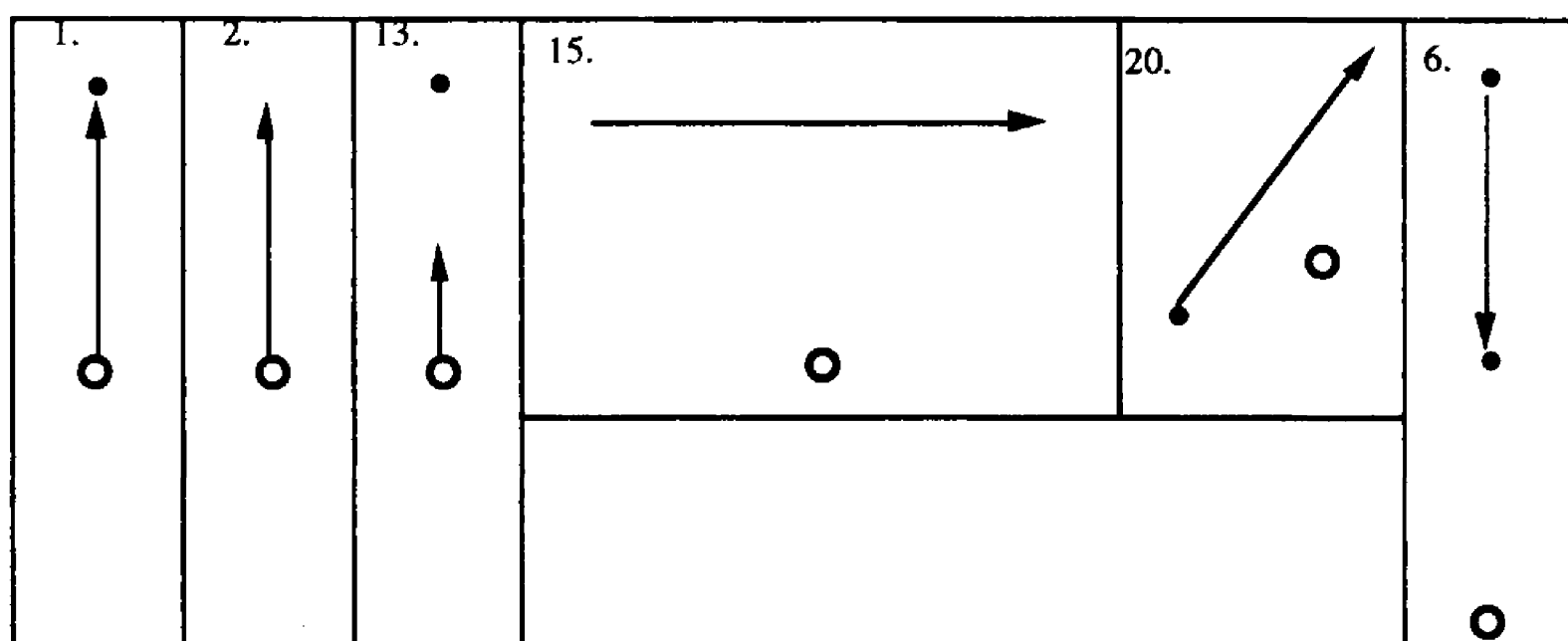Figure 7.   *Unambiguous "Deictic GO" scenes in Longgu (i.e., la hou scenes)*

Figure 8.   *Unambiguous "Generic GO" scenes in Longgu (i.e., la scenes)*

prepositional phrase which further specifies features of the path such as endpoint anchoring at a goal (cf. section 3.2.3). In terms of motion scenes then, we find that *la mai* 'come' is sometimes opposed to *la hou* 'go thither' and sometimes *la/lae* 'go, travel', and that the scenes which *la hou* refers to are a proper subset of the scenes that are described by *la/lae*.

Following a similar line of argument as that presented for Arrernte, we would argue that the opposition between Longgu *la mai* 'come' and *la/lae* 'go, travel' is not semantic but pragmatic. Although the scenes which are referred to by *la/lae* 'go, travel' can all be said to be 'not-*to*-deictic-center'—rather than 'not-*towards*-deictic-center' which was the case for Arrernte *lhe-*—we claim that this deictic component is not part of the verb's lexical semantics. Indeed, the most obvious argument that *la/lae*, as a lexical root, is not inherently deictic is that it shows up as part of *both* the COME and the inherently deictic GO expressions, as well as occurring on its own in a verb phrase to describe motion paths that are not anchored with respect to deictic center. This suggests that it simply means 'move along a path', with other elements (e.g., directional particles and prepositional phrases) used to elaborate the nature of the path. As the scenes above show, *la/lae* 'go, travel' does not entail a source or a goal. Indeed, the scene chosen by consultants as the most prototypical use of *la/lae* is scene 15, where motion occurs at some distance from the deictic center, along a path which has no source or goal and which is not oriented in line with deictic center.

In languages in which GO forms are not inherently deictic in their lexical semantics, we have hypothesized that a sense of deixis may be attributed to them in pragmatic interpretation through opposition with the COME expression. As noted in section 3.2.1, in Longgu, the relevant level of opposition between expressions is not just the lexical level but also the verb phrase level. That is, since *la/lae* 'go, travel' can occur on its own in a verb phrase, its selection and interpretation is systemically related to the factors which determine the use and selection of the semantically related verb phrases *la mai* 'come' and *la hou* 'go thither'. In examples (2a) and (2b) the unmarked reading is that the motion is away from deictic center although there is no directional particle in the verb phrase.

(2) a. *e   la na'a*
        3sg go PERF
        's/he's gone (from here)'
     b. *e   la vu Honiara*
        3sg go to Honiara
        's/he went to Honiara' (one typical reading is 'from here')

The deictic interpretation these sentences can receive may be explained as follows. If motion is to deictic center, then it is felicitous under normal conversational conditions to use the verb phrase *la mai* 'come'. Thus, generic *la* on its own in a verb phrase would be construed under normal conversational conditions as referring to a motion path that is "not *la mai*". This corresponds to the set of scenes in Figure 8 showing paths all of which can be described as "not-to-deictic-center". It is common that the more reduced an utterance expression is, the more it relies on information provided by context. In the absence of any specifying phrase for source of motion path, especially when a goal is given as in (2b), a typical default contextual interpretation is that the most easily identified source is the contextually given "here". So, starting with a unit which semantically means "move along a path", we gain features of deictic specificity through employing pragmatic rules triggered by a knowledge of systemic oppositions. Now it is reasonable to ask why *la hou* 'go thither' is not used in the above examples, since *la* 'go, travel' in a verb phrase is also in opposition with this deictic phrase. The two expressions overlap in use, but *la hou* states explicitly that the deictic center is point of origin of motion and focuses on this fact. This verb phrase is used when it is not contextually obvious that the motion originates at the deictic center, or when it is desirable to stress that the motion goes away from deictic center. *La hou* 'go thither' is a hyponym of *la/lae* 'go, travel' both semantically and pragmatically, whereas *la mai* 'come' is only semantically a hyponym of *la/lae*, but pragmatically is in full opposition to that form. The two GO expressions are thus functionally closer to one another than either is to *la mai* 'come'.

In our first hypothesis, we suggested that unless one stipulates a particular scene as diagnostic for identifying some pretheoretically core notion, there are no universal GO and COME prototypes applicable to all languages. This point can be taken further. In Longgu, unless a particular scene or range of scenes is stipulated, we cannot identify one unique GO form. If one chooses to stipulate a scene such as 2, where motion is away from deictic center but not directed towards any other point, then we can identify *la hou* 'go from here; go thither' as the most likely GO form, although *la* 'go, travel' is also a possible choice. If, however, one chooses to stipulate a scene which is completely unanchored (i.e., has no source or goal) and is not oriented towards or away from deictic center, such as scene 15, then we would select *la* 'go, travel' as the GO form. Stipulating the set of scenes which are 'not-*towards*-deictic-center' is not sufficient to give either *la hou* 'go thither', which has a narrower application, or *la* 'go, travel', which has a broader application that includes 6, a scene in which motion is towards deictic center. Stipulating the set of scenes which

are 'not-*to*-deictic center' would lead to the selection of *la* 'go, travel', but would also allow for the selection of *la hou* 'go thither'. The conclusion seems to be that either Longgu has two GO or else it has no GO.

3.2.3. Prototypes and peripheries

In this section, we further examine the category structure and application of the Longgu COME and GO forms. In Figure 9, we present the scenes that were chosen by all four consultants as the best exemplars for the forms *la mai* 'come' (5), *la hou* 'go thither' (2) and *la* 'go, travel' (15). These choices serve to reinforce points made above. We have argued that *la mai* 'come' and *la hou* 'go thither' are true (semantic) antonyms, and the scenes which were chosen as prototypical for them, scenes 5 and 2 respectively, are graphically opposite in all relevant respects. Scene 5 can be described as motion to a goal which is deictic center and in which there is no source, while scene 2 can be described as a scene in which there is motion from a source which is deictic center and in which there is no goal. Further, although we have argued that *la hou* 'go thither' and *la* 'go, travel' are functionally closer to one another than either is to *la mai* 'come', each form has a distinct best exemplar and these two exemplars highlight the essential semantic distinction between the forms: scene 2 underscores that *la hou* is deictic while scene 15 underscores that *la* is non-deictic.

Figure 6 in section 3.2.2 showed that *la mai* 'come' is used for scene 4 as well as scene 5. One scene does not constitute much of a periphery, but the fact that all consultants chose 5 rather than 4 as the best exemplar seems to show that the source of motion is not encoded in *la mai* 'come'
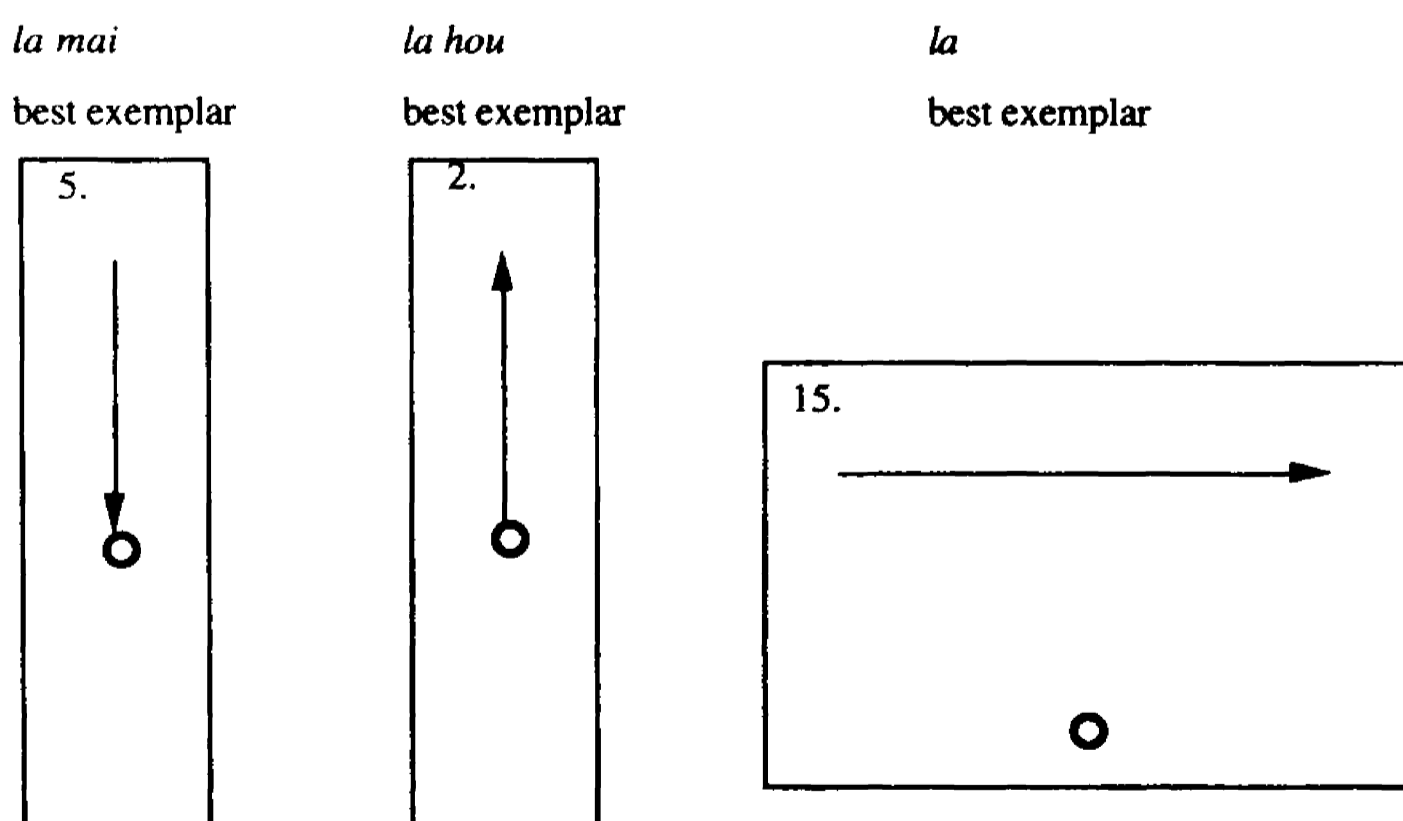

Figure 9. *Best exemplars for the Longgu* COME *and* GO *expressions*

and it is arrival at deictic center which is significant. If the source is mentioned then it occurs as an unmarked complement of the verb phrase and is translated 'he came from X' (3).

(3)   *e   la   mai   Honiara*
      3sg go hither Honiara
      's/he came from Honiara (to here)'.

Note, however, that this sentence can only be used felicitously if the person in question reaches the deictic center. This is significant, because in other Oceanic languages (e.g., Fijian, see Geraghty 1976 and Dixon 1988) *mai* is said to function both as a source-marking preposition (i.e., 'from') as well as a marker of direction to deictic center (i.e., *venitive* function, cf. Lichtenberk 1991), and the equivalent of (3) above in such languages could be interpreted as 's/he went from Honiara (to somewhere else)' with no entailment of one of the understood places constituting deictic center (cf. the Boumaa Fijian text example in Dixon 1988: 311, line 50). This is clearly not the case in Longgu. That is, the form *mai* cannot, for example, be used to mark the source in a sentence like 'he went from Honiara to Gizo', and whenever *mai* is used it entails direction to deictic center. So, in Longgu, the phrase *la mai* 'come' allows an unmarked source to be added, as in the above example, but this source is not entailed by *mai*.

For Arrernte, the COME form *petye-* was used for scenes 3 and 6 as well as 4 and 5, and so it is interesting to see how Longgu treats these scenes. As is predicted from the observation that *la mai* 'come' entails arrival at place of speaker, it is not possible to use this phrase to describe scene 3, shown in Figure 10, in which it is not clear where the figure will

Figure 10.   *A scene described in Longgu by a verb meaning 'leave' but not a verb*

stop. This scene can only be faithfully described using the verb *tavurake* 'to leave' (i.e., s/he has left X), which makes no comments about a goal.[16]

Even more significant for understanding the semantics of *la mai* 'come' is scene 6 (illustrated in Figure 1 in section 2.2). This is the scene which most clearly demonstrates the difference between the Longgu COME verb phrase and the Arrernte COME verb. In Longgu, as we have mentioned in section 2.2, this scene cannot be described using *la mai* 'come', because, although the motion path is oriented towards deictic center, the end point goal of the path is not deictic center, but a place well before it. For this scene, Arrernte must use the verb *petye-* 'come', and Longgu speakers use either the GO verb *la* 'go, travel' or a combination of the verbs for 'leave' and 'arrive' together. The latter alternative is preferred by all consultants over the former. Thus, while scene 6 is a central member of the category covered by Arrernte *petye-* 'come', it isn't even a member of the category covered by Longgu *la mai* 'come', but is a peripheral member of the category covered by *la* 'go, travel'.

The verb phrase *la mai* 'come' can be used in the description of scene 18 (see Figure 11), where motion is along a path which ends at a point that could be considered as being close to the deictic center. Crucially, however, the allative preposition *vu* 'to, towards' must also be used in such a description (e.g., *e la mai vu Boula* 3sg go hither to Boula 's/he came to Boula'). In analysing the semantics of *la mai* 'come' it has been necessary to distinguish examples where the verb phrase alone is acceptable from examples like this (and like those containing reduplication of the verb, cf. footnote 16) where the verb phrase is modified in some way. In this way, we avoid the problem of confusing the actual deictic center with a projected or grown deictic center. Note that, as with Arrernte, the "come" expression is only possible for this scene under a construal that the actual achieved goal is close to (i.e., in the vicinity of) deictic center. Thus, scene 18 is at best a peripheral member of the category covered by *la mai* 'come' in Longgu.

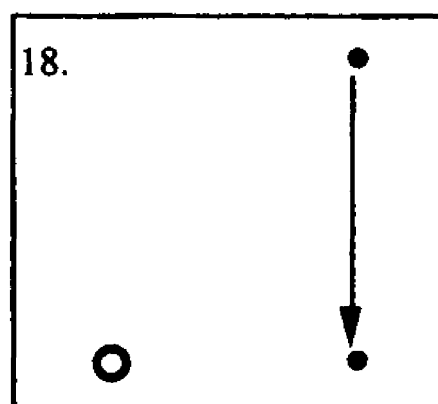In Figure 8 (in section 3.2.2) we presented the three scenes that could

Figure 11.   *An "unclear" COME scene in Longgu*

be described using *la hou* 'go hither' (i.e., scenes 1, 2, and 13). Although all three scenes involve motion along a path away from the deictic center source, only scene 2 was selected as the best exemplar of this form. It appears that the more a motion scene involves a destination point, the less good it is as an example of *la hou* 'go hither'. The best exemplar (scene 2) has no hint of an endpoint destination. Scene 13 is a good example for the use of *la hou* 'go hither', but since it suggests that the focus of interest is now not only the fact of motion away from deictic center, but also the orientation of the path with respect to a second place (a potential goal), it is not as good an example as 2. It is only in scene 1 that there is a goal which is reached, and this is considered a very peripheral member of the category which *la hou* 'go hither' refers to. Once a scene is depicted with an achieved goal then there is a very clear preference for mentioning the goal through addition of an adjunct prepositional phrase *vu* X 'to(wards) X', and *la vu X* 'go to X' is used instead of *la hou* 'go from here, go thither', and is strongly preferred over the phrase *la hou vu X* 'go from here to X'. Thus, motion away from the deictic center is typically only encoded (through *hou*) when there is, in addition, no goal. There are two possible explanations for this displacement of mention of deictic center as source by goal information in Longgu. The first would be to suggest that there is an allative bias in information packaging in the language (i.e., speakers are predisposed to focus more on encoding motion towards a goal than on motion away from a source). The second explanation, which has already been touched upon, would be that motion away from deictic center can be pragmatically implied by the verb *la* 'go, travel', especially in the context of an overt allative phrase. Whatever the explanation, scene 1 is considered by consultants to be a better member of the *la* 'go, travel' category than the *la hou* 'go thither' category, although it clearly belongs to both.

As Lucy (1994: 623–624) has noted "[f]ar too often in comparative research on lexical semantics, conclusions are drawn simply on the basis of denotational overlap." He goes on to point out that the actual structure of categories, their full referential range and their internal organization are often neglected in crosslinguistic lexical comparison. In this subsection, we have tried to avoid these pitfalls by outlining the salient features of the category structure of the Longgu COME and GO forms and by using these, rather than mere denotational overlap, as the basis for both language internal and crosslinguistic comparison of forms.

3.3. *Summary and comparison*

How do the data from Arrernte and Longgu relate to the hypotheses presented in section 1? The first hypothesis suggested that verbs that

depict COME and GO scenes vary crosslinguistically in their base semantics so much that there is no useful sense in which COME and GO may be considered universal notions. It is clear that the Longgu and Arrernte terms for COME and GO differ in a number of respects. Firstly, and most importantly, the sets of scenes (i.e., the referential ranges) to which the COME and GO descriptions apply are not identical. Moreover, while in Longgu it is possible to identify one prototypical scene for the COME phrase, and for each of the two GO expressions, the Arrernte COME and GO verbs can be used to describe a wider range of scenes, with speakers differing in their preference for one or another scene (or set of scenes) as the prototype. If we just compare the Longgu verb phrases *la mai* 'come' and *la hou* 'go away hither' with the Arrernte verb forms *petye-* 'come' and *lhe-* 'go', we see that the "comparable" expressions for the two languages differ in their category structure not only in breadth of inclusion, but also in what are considered the central and peripheral members of the category. (Remember, for example, that in choosing the best exemplar for *petye-* 'come', two of the four Arrernte consultants chose scenes that are not even covered by Longgu *la mai* 'come', i.e., scenes 3 and 6.) From this alone we can conclude that the base lexical semantics of the Longgu verb phrases and the Arrernte verbs are different. However, it is possible to argue that both Arrernte *lhe-* 'go' and Longgu *la* 'go, travel' are inherently non-deictic general motion verb roots, and that the prototypical scene for both is one in which motion passes by deictic center at a distance away from it, not one in which the motion path originates at deictic center and moves out away from it (cf. hypothesis 2). More work is needed to test this last point for Arrernte, since there is variability in which scene was chosen as the best exemplar for *lhe-* 'go'.

A comparison of the data presented in the two case studies also shows that it is important to understand the systems of which the COME and GO expressions are a part (cf. hypothesis 5). For Arrernte, there is a formally identifiable set of basic motion verbs in the language. Within this system, *lhe-* 'go', the basic verb root, is formally unmarked while *petye-* 'come' is marked. In traditional analyses, the formally simpler GO expression is often treated as though it were more conceptually complex than the formally more complex COME expression, in the sense that the GO expression is said to encode 'motion-**not**-to(wards)-deictic-center'. We have argued that this anomaly is resolvable if the verb *lhe-* 'go' is assumed to have no inherent deixis of its own, but instead gains its deictic interpretation pragmatically (cf. hypotheses 2 and 4). The formally simpler member of the set is then also the conceptually simpler member at the lexical semantic level. The Longgu data show a slightly different and more complex picture. From one perspective, the COME and GO expressions are

verb phrases rather than verbs. Both of these verb phrases are inherently deictic, consisting of the general motion verb *la* 'go, travel' and the deictic directional particles *mai* 'hither' and *hou* 'thither'. These verb phrases occur at the same level of the system, but, like the Arrernte pair, they do not themselves form a two-element subsystem within the language. From another perspective, the Longgu COME and GO expressions are, as in Arrernte, elements at two different levels in a system: the GO form is a simplex verb root *la* 'go, travel' while the COME form *la mai* is complex, derived from the simplex form. As with Arrernte *lhe-* 'go', deixis can be pragmatically attributed to Longgu *la* 'go' by virtue of its opposition to the COME form, although the implicature functions under slightly different conditions in Longgu due to the presence of an inherently deictic GO expression. The evidence from both Arrernte and Longgu suggests, then, that GO verb roots are not necessarily inherently deictic (although in Longgu the GO verb phrase clearly is).

The discussion of Arrernte has shown that the COME and GO forms are part of a formally identifiable ten-member set of basic motion verbs, and the interpretation of the forms requires an understanding of the systemic oppositions among members of this set (cf. hypothesis 5). However, this system does not comprehend all the notional motion verbs in the language, and no formal criteria can identify all and only the notional class of motion verbs in Arrernte. Similarly, in Arrernte, while the basic formal subclass of verbs investigated in this paper are all motion verbs, not all the notional motion verbs fall into this class. If we look to find a class that will, for example, include the verb meaning 'to fall' (*tnye-*), a standard notional motion verb, we also find that the same formal subclass will include verbs like 'to look for'. In Longgu, by contrast, one cannot even find formal criteria that will isolate a subset of motion verbs, let alone the whole notional class. The smallest formal class that includes the verb root *la* 'go, travel' is a set of path-taking verbs, which consists of some motion verbs and some perception verbs. This class does not, however, comprehend all notional path-taking verbs.

If we compare the two COME forms in Arrernte and Longgu, we see that there is a crucial difference in their base semantics (cf. hypotheses 1 and 3). The Arrernte form *petye-* 'come' requires only that the figure move along a path which is oriented towards the deictic center, and it does not entail that the figure reach that place. By contrast, the Longgu verb phrase *la mai* 'come' entails that the deictic center goal is reached. Because of this difference, a wider range of scenes can be described using the Arrernte COME verb than the Longgu COME phrase: Arrernte *petye-* can unambiguously describe scenes 6, 3, 5 and 4, while Longgu *la mai* can only be used for scenes 4 and 5. An important difference between

the two languages is that scene 6 cannot be described in Longgu with *la mai* 'come'. *La* 'go, travel' can be used for this scene, but Longgu speakers prefer using *tavurake* 'leave' and *sara* 'arrive' as both a source and a goal are involved in the scene and neither of these locations is deictic center. Scene 6 is, then, a COME scene for Arrernte speakers but a non-central (peripheral) GO scene for Longgu speakers.

Thus, all the hypotheses receive some support from this comparison of COME and GO expressions in Arrernte and Longgu, although, with respect to hypothesis 1, we can argue for a universally valid GO notion, if by this we understand a generic non-deictic translational motion verb. We elaborate on the assessment and significance of these comparisons in the conclusion.

Since it has not been our aim to suggest that these data and their analysis argue against a cognitivist treatment (c.f. footnote 4), it may be useful to sketch out what a cognitive linguistic approach to these data might look like. We will claim, however, that even a cognitive linguistic treatment rests on keeping semantic and pragmatic domains separate. Following Lakoff (1987), let us assume that a cognitive account will minimally require both image-schematic structuring, as in Langacker's cognitive grammar, as well as Fillmorean-style frames. Langacker (1990: 155) has already provided an image-schematic account of "what all verbs of physical motion have in common" and notes that "the meaning of *go* may well be limited to this schematic content when it functions as a maximally generic motion verb." The crucial components of this structure are a mover (m), locations (l), event times (t), the conceptualizer (C), and the processing time of conceptualization (T). A paraphrase of the schematic content would be that a constant conceptualizer (C), through successive periods of processing time of conceptualization (Tl-Tn), conceptualizes that "m occupies location l_1 at moment t_1; he occupies l_2 at t_2; and so on" such that "through span $[t_1, t_2, t_3, ..., t_n]$ of conceived time, the mover traverses the spatial path $[l_1, l_2, l_3, ... l_n]$." Let us assume that this captures the general lexical content of Mparntwe Arrernte *lhe-* and Longgu *la*. COME expressions would necessarily include this schematic structure within their own image schema, but their description would be more complex since they would add a deictic center component, presumably as one of the locations (e.g., location of the conceptualizer). In Longgu *mai* would add the image-schema of *TO-the-deictic-center* to the image-schema of *la* (resulting in the image-schema for *la mai*), while Mparntwe Arrernte *petye-* would include the image-schema of *TOWARDS-the-deictic-center*, which can be said to be encoded in the morpheme *-tye*. In this way, one can capture the fact that the COME

expressions are conceptually more complex than the generic GO expressions.

To capture issues of lexical selection, markedness and contextual interpretation, we now need to use frames and the notion of a default within a frame. Fillmore (1975b: 124) noted that he "used the word frame for any system of linguistic choices ... that can get associated with prototypical instances of scenes." Similarly, Kittay and Lehrer (1992: 4) note that "[f]rames are interpretive devices by which we understand a term's deployment in a given context." Thus, frames contain generalized knowledge of contexts and scenes and are used to determine how terms are to be deployed, associated and interpreted in context. Using the notion of frame allows one to specify the class of situations in which a word (e.g. "come" or "go") makes sense. As Lakoff (1987: 116–117) notes "Minsky's frames are equipped with default values" and "[t]hese are values for a slot that are used if no specific contextual information is supplied." Lakoff appears to use such default interpretation in relation to markedness. He notes (1987: 549) that "[w]hen a binary contrast is eliminated, it is most natural for the unmarked member of the pair to be chosen" and also (1987: 61) "the unmarked member is the default value—the member of the category that occurs when only one member of the category can occur and all other things are equal." For our purposes, where contexts (i.e., construed situations) fit the meaning (image-schematic structure) of the more specific COME expression, that expression will be selected, in other situations the generic GO expressions would be treated as the default non-manner motion verb and will be selected. This explains the complementary relation between COME scenes and GO scenes.

So, the main insights of our analysis can be captured in a cognitive linguistic style analysis. Someone might be tempted to say that this shows that one does not need a distinction between semantics and pragmatics, because the analysis can all be done within semantics (i.e., frame semantics). This appears to be merely a difference in terminology. There are two components to this cognitivist analysis. The image-schematic component provides us with the equivalent of a lexical semantic account of COME and GO expressions, while the frame component of the account specifies the different classes of situations (generalized contexts) for which each expression can be selected and given an interpretation. This seems to correspond to at least one of the common distinctions that has previously been made between semantics and pragmatics (c.f. Levinson 1983), and is consistent with what we would argue is necessary. That is to say, it appears to distinguish between word meaning and word use,

and between schematic meaning representation on the one hand and situational selection and interpretation on the other.[17]

4. Conclusion

This paper set out to challenge three common assumptions: (i) that all languages possess a class of motion verbs; (ii) that COME and GO are lexical universals and are diagnostic of a motion class, and (iii) that both COME and GO are inherently deictic verbs manifesting a universal deictic opposition. We mounted our challenge by using a standardised elicitation format which enabled us to undertake a detailed cross-language comparison of data with respect to five specific hypotheses concerning COME and GO. Of course, more languages are needed to properly identify crosslinguistic patterns and regularities, but our investigation of Arrernte and Longgu can still allow us to make some definitive claims concerning the validity of each of the three common assumptions.

With respect to the first assumption, we noted in the introduction that Lucy (1994) and Levin and Rappaport Hovav (1992) have shown that motion verbs do not constitute a single formally discernible natural class in either Yucatec Maya or English, respectively. Our study reinforces such findings: there are no formal criteria in either Arrernte or Longgu that come close to identifying a class that could reasonably be seen to approximate the full notional class of motion verbs. Still, the other two studies mentioned did leave open the possibility that all languages have a formally definable subclass which would contain both a COME root and a GO root and for which motion would be a defining feature. Our study shows that even this cannot be sustained. In Arrernte, we can identify a basic set of four general motion roots—*lhe-* 'go'; *unte-* 'hurry along'; *knge-* 'carry along'; *alpe-* 'go back'—and this set does contain the GO form but not the COME form. (Remember, in this analysis, the COME form is not a root, but a derivation at another level.) The Arrernte data would still allow us to hypothesise that a GO root will always appear in a formally definable subclass of verbs all the members of which encode a semantic feature of motion. However, this last bastion also falls when confronted with the data from Longgu. In Longgu, the generic GO verb root *la* appears in a formal subclass of verbs that also includes perception verbs, and there is no other formally identifiable subgroup of verbs in which all the members share the semantic feature of motion. Thus, at least on formal grounds, it is not true that all languages possess an identifiable class of verbs whose members all encode motion. It would be hard to disprove the hypothesis that all languages possess a class of notionally-defined motion verbs, and as Lucy (1994) argues, without

formal criteria to guide them, there is a danger that analysts will impose their pre-theoretical language- and culture-bound categories onto individual lexical items.

Now, from the point of view of justifying potential conceptual analytic units, the different formal classes which contain the GO root in English, Yucatec, Arrernte and Longgu are very interesting. For English, Levin and Rappaport Hovav (1992) claim that all the verbs in the relevant formal class (their *arrive* class) "necessarily encode inherent direction" as well as motion. For Yucatec, the most grammar-relevant class "denotes *state changes*, punctual occurrences in which some argument achieves a new state" (Lucy 1994: 639). For Arrernte, the class of verbs share the feature of "general translational motion". Finally, for Longgu, all the verbs seem to share an underlying notion of "path", without sharing a motion component. This variation in structure-determined class-placement of GO forms cross-linguistically, gives rise to an interesting list of corresponding conceptual features which natural languages can apparently use to group verbs together. If one views the (Semantics 1) meanings of lexemes as being complexes of information units, then it is theoretically possible for lexemes of identical meaning in two languages to show up in different formal classes depending on which particular semantic feature or constellation of semantic features is used by each language for the purposes of grouping. One of the goals of future investigation would be to determine what, if any, effect membership in such distinct formal classes has on the construal of individual verbs in those classes.

Anyone who accepts a strong form of the localist hypothesis could easily find a post-hoc rationalisation for the fact that notional and formal subclasses of verbs do not tend to coincide where motion is concerned. If one were to believe Miller and Johnson-Laird's (1976: 527) statement that verbs of motion are "the most characteristically verbal of all the verbs" and are the "purest and most prototypical forms" of verbs, then one would expect that distinguishing motion verbs from other verbs would be almost impossible, since, according to the localist assumption underlying this view, "non-motion" verbs would inherit some of their conceptual and formal properties from motion verbs, making any formal (or notional) distinction difficult to draw with any precision.

As for the second assumption, if lexical universal is understood in the strictest sense as meaning that all natural languages possess a monomorphemic root which codes the same conceptual content, then it is possible to state with confidence that COME is *not* a lexical universal. Arrernte encodes such a notion in a derived verb stem which is composed of a basic motion root and a bound deictic morpheme (i.e., *pe-tye-*; *unte-tye-*;

knge-tye-), and Longgu goes beyond the realm of the word altogether, and encodes the notion phrasally, with a free verb root plus a free deictic directional particle (i.e., *la mai*). Moreover, these COME expressions are not semantically equivalent. For example, while Longgu *la mai* encodes path boundedness, with the deictic center as understood endpoint, Arrernte *petye-* does not entail that the motion path is anchored to an endpoint, nor that the deictic center must be considered a potential endpoint—it entails only path orientation towards deictic center. In short, both formally and conceptually one can conclude that COME is not a lexical universal.

One could use looser criteria to argue that both the languages studied (and English) have a COME expression, and that this expression covers, at a minimum, our scenes 4 and 5 (the literature's prototype COME scenes), and does not cover our scenes 1 and 2 (the literature's prototype GO scenes). However, this appeals only to denotational overlap, not a comparison of category structure. As we have noted, unlike Longgu, the Arrernte COME prototype is not always adjudged by consultants as being scene 4 or 5, but for some consultants is scene 3 or 6. Moreover, any lexical semantic generalisation has to be made across all possible coded scenes which we have investigated, which, as in the case of Arrernte, would necessarily exclude some features of both of scenes 4 and 5 (e.g., it would exclude a feature of entailed boundedness to deictic center as endpoint).

Although the looser sense of a possible universal correlation is not uninteresting, it is preferable to restrict the notion of lexical universal to its more familiar definition if the aim is to correlate proposed conceptual primitives with universally occurring lexical items. (cf. Wierzbicka 1989; Brown 1989; Goddard and Wierzbicka 1994; Harkins and Wilkins 1994). For example, from the point of view of conceptual primitives, even if all languages have a COME expression, it does not seem irrelevant that both the literature and this study confirm that it is far more likely for COME expressions to be formally analyseable into two elements (a motion component and a deictic component) than it is for GO expressions to be similarly analysable.

From the description of the Longgu system it is clear that one basic verb root *la* underpins the truly deictic COME and GO expressions (i.e., *la mai* and *la hou*, respectively), and so it is difficult to discern whether *la* or *la hou* is the relevant unit to bring into the crosslinguistic comparison of GO expressions. Clearly, *la* is a generic verb for translational motion (i.e. a TRAVEL verb). Just as clear from the discussion presented in this paper is the fact that Arrernte *lhe-* also has a generic translational motion sense (as does English *go*). It may just be possible that a general transla-

tional motion verb is a lexical universal, in the strict sense of all languages possessing a basic verb root with the same generic motion semantics. But such a verb is perforce non-deictic, and so an account of deictic interpretations is required, and this brings us to the third assumption.

A language can, like Longgu, solve the problem of deictic interpretation, at least in part, by adding overtly deictic directional particles to the basic 'travel' verb, giving two fully deictic GO and COME expressions. However, it is our contention, argued most fully for Arrernte but also applicable to Longgu, that languages will tend to use their semantically generic translational motion verb in systemic contrast to the COME expression, and as a result they rely on a pragmatic implicature to derive the sense of deixis that is commonly associated with such generic motion verbs.

Longgu *la* and Arrernte *lhe-* (and English *go*) can be used to describe the scene of an unbounded path passing by at a distance from the deictic center (i.e., scene 15), showing that they do not entail motion directed away from deictic center. It is usually such an observation which leads to the cumbersome characterization of deixis for such terms as "not-to(wards)-deictic-center". But, as we have seen for Arrernte and Longgu, such deictic designations lead to an uncomfortable, and anomalous, fit between formal simplicity and conceptual complexity which challenges a basic functional principle of iconicity. This consequence is avoidable if one accepts what we might call the "pragmatic attribution of deixis account". In a sense, we are denying Miller and Johnson-Laird's (1976) claim (cf. section 1.0) that English *go* is too complex to serve as a generic verb for the analysis of (notional) motion verbs. In lexical semantic terms (Semantics 1), Arrernte *lhe* and Longgu *la* (and English *go*) can be considered pretty much the equivalent of Miller and Johnson-Laird's constructed TRAVEL primitive, and it is systemic and pragmatic considerations which cause added complications with respect to use and contextualised understanding (Semantics 2). This type of argumentation is identical to that in Grice's (1975) classic "Logic and conversation", the stated purpose of which was to show that logical connectives like "and" could be seen as having the same meaning in natural language as in logic, the only difference being that in natural language "and" is subject to various pragmatically determined contextual construals. Thus, we suggest that GO could well be a strict lexical universal with a generic non-deictic translational motion sense, although this certainly requires further investigation.[18] What is clear is that GO in the sense of an inherently deictic verb root is most definitely not a lexical universal.

To sum up, (i) it is questionable whether the set of notionally-defined motion verbs corresponds to a formally-defined verb class in any language, and there are certainly languages with no formally identifiable

subclass of verbs whose members all express motion; (ii) COME is not a strict lexical universal, nor is GO if we require it to be lexically deictic, but a non-deictic GO form may be a strict lexical universal; and (iii) the GO form in at least some languages is not deictic, so if there is a universal deictic opposition manifested by COME and GO forms, it is at the level of pragmatic interpretation (Semantics 2) not lexical semantics (Semantics 1). Thus, none of the assumptions survive intact, and it should now be obvious both that it is dangerous to talk about universal activities or universal experiences of COMING and GOING, and that it is no longer possible to say without qualification that all languages express the notions COME and GO. Freed of the "working assumptions" that don't work, there is now a need to reconceptualize research into the acquisition of deictic motion verbs, the crosslinguistic comparison of motion systems, and the grammaticalization paths from COME and GO verb sources.[19]

Notes

2. In Yucatec this class consists of five verb roots: *máan* 'pass by'; *péek* 'move, vibrate'; *táal* 'come (here)'; *b'in* 'go (there)'; and *'ú'ul* 'arrive (here)'. Lucy (1994: 641) states that "their distinctiveness from the larger state-change set is itself a relatively recent innovation" and observes that "[a]lthough this set includes the most general change-of-location descriptors, glossed here as 'go' and 'come', which are often considered diagnostic of a class of motion verbs, in Yucatec they do not serve as the core of a larger class of verbs." For English, Levin and Rappaport Hovav (1992) show that notional motion verbs in fact fall into three distinct formal classes depending on their behavior with respect to a number of unaccusative diagnostics. One class they label the "*arrive* class" and this contains verbs such as 'arrive', 'come', 'go', 'depart', 'fall', 'return', and 'descend'.

3. Swadesh's basic hundred word list is one of the most famous attempts to identify vocabulary that refers to "universal and simple things, qualities, and activities, which depend to the least degree possible on the particular environment and cultural state of the group" (Swadesh 1972: 275). Among the "basic" words are "simple activities of the body, movements" and so on. Curiously, the list includes 'come' but not 'go' (1972: 283). It does, however, include "walk", "swim" and "fly".

4. Some readers of previous versions of this paper have assumed that in accepting Levinson's view we are accepting a non-cognitive framework. But there is nothing in Levinson's work (1983; in preparation; in press; p.c.) which should lead one to presume that he follows the objectivist paradigm as characterized in general terms by Lakoff (1987). The view that "what have been called semantics and pragmatics are both structured using cognitive models" (Lakoff 1987: 256) is consistent with Levinson's and our position, as long as it is understood that the domain of concern for cognitive modeling in pragmatics is how contexts are built and construed and how various processes assess information against these mental models of context in order to determine final understandings, while cognitive modeling in semantics is concerned with representing the conceptual foundations and the intensional understandings of linguistic items. Since human beings do believe there is such a thing as "reality", even if cognitive neuro-scientists know that it is never objectively processed and is always cognitively and culturally construed, it does make sense to ask how language and the intensional information it codes is associated with what people believe is objectively real. To use logic as a descriptive tool in stating the relation between linguistic encoding and cognitive models of context and reality, once again, does not entail an objectivist philosophy. Lakoff (1987: 256) himself acknowledges this, and notes that there is "a possibility that one might be able to use model theory, or at least some of its apparatus, in an adequate theory of semantics".

5. For example, from her comparison of Spanish, Japanese, English and Turkish, Gathercole (1977) concludes that: "It is clear that no two languages presented here have exactly the same appropriateness conditions for their verbs for 'come' and 'go'. However, one thing that they all agree on is that movement towards where the speaker is located at the time of utterance is always encoded with 'come', and unmarked movement away from where the speaker is located at the time of utterance is encoded with 'go'."

6. There are at least two positions in the cognitivist literature concerning the semantics–pragmatics distinction. One that holds that "there is no gulf between linguistic pragmatics and linguistic semantics; on the contrary, linguistic pragmatics can be fruitfully seen as part of linguistic semantics" (Wierzbicka 1991: 19). This position, in its most radical form, would claim that "[l]inguistic semantics and linguistic pragmatics are one" (Wierzbicka 1991: 18). The second position holds that although there may be

clearly semantic phenomena and clearly pragmatic phenomena, there is in fact a cline between semantics and pragmatics and so a fixed boundary cannot be drawn between the two (c.f. Lakoff 1987). Our claims concerning the semantics-pragmatics distinction are two-fold, and would deny both of these positions: (i) semantics is concerned with meaning representation while pragmatics is concerned with processing of meaning in relation to context, and (ii) to the extent that pragmatics as a domain may be concerned with establishing stored cognitive representations, it is concerned with the representation of contexts and beliefs about what is "real" in the world along with the representation of what the intentions of speakers are likely to be. We would agree that the distinction between semantics and pragmatics often seems to be blurred because words like English "come" or "please" incorporate deictic elements and/or information concerning typical contextual application into their lexical semantic representation. But these elements of semantic representation have only an incomplete or schematic interpretation until pragmatic rules map them to real discourse contexts (as cognitively construed by an active conceptualizer).

7. It is important to stress that the model being proposed is meant to hold equally for both the encoder and the decoder. That is, semantics 1, pragmatic rules, and semantics 2 come into play for both the speaker and the hearer with respect to any, and all, specific utterances. While it may be easier to see the model from the decoder's viewpoint, this is because that is precisely what speakers themselves have to do (i.e., they have to project what the decoder will be able to interpret in the context): the speaker intends the addressee to identify semantics 1 meanings and employ specific pragmatic rules to reach the semantics 2 interpretation that the speaker intends the addressee to think that s/he (the speaker) intended (c.f. Levinson in preparation, in press). Applications of this "two semantics" model can be found in Wilkins (1986, 1989, 1992) and Wilkins and Van Valin (1993).

8. Hereafter, we will use capitalized COME and GO to refer to the two hypothetical universal notions whose very existence we are questioning. These labels refer to forms in languages which have typically been glossed as simply "come" and "go" and/or to forms which have significant denotational overlap with English "come" and "go". Crucially, denotational overlap is not sufficient to determine shared semantics, nor category structure, but it does provide one means for bringing items into comparison.

9. One of the most common questions raised with respect to this paper is whether anyone really holds the positions we are arguing against. Are we just battling against strawmen? No! While no author may have argued for the complex of views which we are arguing against, and while it may be the case that when pushed to the wall some authors might readily admit that they were just talking loosely, it is definitely the case that the individual working assumptions we are confronting permeate the literature. Most recently they have become integrated into the foundations of the grammaticalisation literature. What are we meant to understand when Heine et al (1991: 35) speak of "come" and "go" as basic human movements and use this to explain why they are cross-linguistically common source lexemes in grammaticalisation? Similarly, what presumptions are we asked to buy into with respect to the meaning of the verb "go", when Langacker (1990: 149) tells us that "[a] well-known fact of language change is that verbs meaning 'go' often evolve into markers of future tense." To be fair to Langacker, he readily acknowledges that the common characterization of this shift as involving a "spatial metaphor, wherein the meaning 'motion away from the speaker' is transferred from the spatial to the temporal domain" is "insufficiently precise". It is a similar lack of precision which we are also attacking.

10. Gathercole (1977) begins her study with a similar observation. She notes "[t]hat the conditions that require the verb 'come' in one language often require 'go' in another language". However, such an observation still leaves open a question as to whether such "conditions" are pragmatic or semantic.

11. A number of readers have rightly questioned whether the methodological task and its constraints are in fact sufficient to determine whether the deictic center is imposed by the lexical item or by wider pragmatic rules. Our considerations do, admittedly, buy into the common assumption that the most basic situational elements in which deictic notions are rooted are the phenomenal experience of the "here" and "now" of a speaker and hearer in face-to-face communication at a fixed location discussing current scenes, and so any deictic properties that a lexical item might possess should minimally show up under such conditions, and be rooted in them. It is well known, however, that deictic terms can differ (lexically) as to whether the deictic center is set at place of speaker, the place of the addressee or the place of a speech act which includes both speaker and addressee. More research would be needed to assess each of these possibilities independently, and so our lexical claims are necessarily tentative, although our claims of cross-linguistic variation within particularised simple contexts remain valid.

12. It is only by historical accident that *alpe* 'go back' appears to contain **pe-* 'go': the former root derives from pre-Arandic **kulpi-*'return' while the latter derives from pre-Arandic **wapa-*'go, move about'.

13. After presenting the hypothesis that "formal complexity corresponds to conceptual complexity", Haiman (1985: 147–8) notes that "a somewhat more familiar but not entirely equivalent expression of this relationship is that morphological markedness corresponds to semantic markedness." He demonstrates why these formulations are not fully equivalent, although they are strongly associated, and also demonstrates competing motivations that result in the erosion of iconicity, showing that the correspondence of formal complexity with conceptual complexity does not always operate. However, he does note (1985: 151) that a "[a] tendency for such a correspondence does exist, and may even be said to be pervasive". For our purposes, it will be sufficient to say that where two competing solutions to a problem arise, the one that is consistent with this pervasive iconic tendency is to be preferred, and where a solution appears to be against the tendency, one should seek to see if there is a natural solution which is consonant with the tendency.

14. Fleischmann (1982) provides a nice discussion of markedness issues with respect to "come" and "go" expressions, and also acknowledges (1982: 327–8) that "go" is typically unmarked in relation to "come" in that its presuppositions do not entail anchoring with respect to speaker. However, although recognizing that "go" can involve motion away from a point that is not a true deictic center, she still continues to treat "go" verbs as essentially deictic, rather than taking the same facts as arguing that they are essentially "non-deictic".

15. The full form of the verb is *lae* (e.g., *e lae* [3sg go] 's/he is going'). The reduced form *la* is used when either directional or aspect particles occur in the verb phrase (e.g., *e la na'a* [3sg go PERF] 's/he has gone') or the clause consists of a verb phrase plus prepositional phrase (e.g., *e la vu komu* [3sg go to(wards) village] 's/he went to the village').

16. The original specification for scene 3 in the elicitation tool (cf. Wilkins 1993) was "X move from being at place A in the direction of place B (deictic center), final destination indeterminate". If we know, or have presumed, that the goal of the figure is the deictic center then one can focus on the potential of reaching the goal by reduplicating the verb *la* 'go, travel' and including the continuative aspect particle in the phrase (e.g., *e*

la-la mai 'ua 3sg go-REDUP hither CONT '*he is still coming*'). Thus *la mai* 'come' can be used felicitously while there is on-going motion towards the deictic center as goal, but it is crucial that there is a claim that the deictic center will be reached.

17. The inclusion of a cognitive linguistic style account like the one presented in the preceding three paragraphs was suggested to us by George Lakoff. We would like to thank him for sketching out for us some of the features that such an analysis might have. Needless to say, we, the authors, are fully responsible for the form the analysis takes and the claims made. As such, it must be kept in mind that neither author is an expert in cognitive linguistic analyses of this sort, and so our only intention has been to sketch the possibilities, not the details.

18. According to Emanatian's (1992: 27, footnote 12) account of Chagga (Eastern Bantu, Tanzania), even this proposed universal may be questionable. But, it is necessary to take care here. While the "go" verb identified by Emanation may indeed entail motion away from deictic center, her paper does not present the full range of motion verbs, and so it remains an open question as to whether Chagga also possesses a verb root which generically expresses non-deictic translational motion. It would be interesting to know how Chagga speakers would describe scene 15, for instance.

19. In her discussion of the developing aspectual uses of the Chagga motion verbs "come" and "go", Emanatian (1992) repeats the widely held lore concerning grammaticalization from "come" and "go" verbs. She notes generally that the directedness of these verbs make them, crosslinguistically, good candidates for developing tense-aspect semantics, and she states that the particular facet of their meaning that accounts for their typical pattern of grammaticalisation is the fact that " '[c]ome' and 'go', of course, are *deictic* motion verbs, and are extremely common ways of lexicalizing motion events" (1992: 22; emphasis on 'deictic' is from the original). The results of this paper suggest that "go" is *not* "of course, a deictic motion verb" at the lexical semantic level in all languages, and from the point of view of grammaticalization it is necessary to be careful as to whether the process involves semantic change or pragmatic change, and whether the "come" and "go" verbs entail a "source" or a "goal" originally, and whether they are "telic" or "atelic". All these factors affect the nuances of change. For instance, when "go" develops, as it commonly does (cf. Heine, et al. 1993), into a "durative" or "continuous marker", the difference between claiming the source verb is originally deictic and entails an achieved endpoint goal and claiming the verb is a generic non-deictic atelic translational motion verb leads necessarily to different claims about what the nature of the grammaticalization process is; in the former case one would have to claim massive semantic bleaching that would first lead us to look for or hypothesize conditions under which deictic center, goal and telicity were suppressed, in the latter case we merely have to focus on something like the metaphorical extension of motion along an unbounded path to extended temporal change for other activities. Clearly, then, it is dangerous to presume that such change starts from some pretheoretical notion of a protypical motion situation.

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